

**BEAVER COUNTY
MUNICIPAL SOLID WASTE MANAGEMENT PLAN
2014 PLAN UPDATE**

FINAL PLAN SUBMITTAL

Prepared for:

Beaver County Department of Solid Waste Management

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2014 UPDATE TO MUNICIPAL SOLID WASTE MANAGEMENT PLAN BEAVER COUNTY, PENNSYLVANIA

MARCH, 2013
Revised April, 2014

INTRODUCTION

Pennsylvania Act 101 of 1988:



According to § 4000.303 of Act 101: “Each county shall have the power and its duty shall be to insure the availability of adequate permitted processing and disposal capacity for the municipal waste which is generated within its boundaries. As part of this power, a county:

- 1) May require all persons to obtain licenses to collect and transport municipal waste subject to the plan to a municipal waste processing or disposal facility designated pursuant to subsection (e).
- 2) Shall have the power and duty to implement its approved plan, including a plan approved under section 501(b), as it relates to the processing and disposal of municipal waste generated within its boundaries.
- 3) May plan for the processing and disposal of municipal waste generated outside its boundaries and to implement its approved plan as it relates to the processing and disposal of such waste.
- 4) May adopt ordinances, resolutions, regulations and standards for the recycling of municipal waste or source-separated recyclable material if one of the following requirements is met:
 - (i) Such ordinances, resolutions, regulations or standards are set forth in the approved plan and do not interfere with the implementation of any municipal recycling program under section 1501.
 - (ii) Such ordinances, resolutions, regulations or standards are necessary to implement a municipal recycling program under section 1501 which the municipality has delegated to the county pursuant to section 304
- 5) May prohibit the siting of additional resource recovery facilities within its geographic boundaries where any additional resource recovery facility is inconsistent with the county plan pursuant to section 501(b) unless such facilities meet the criteria of section 502(c)(2) and (o)(1)(iii). [FN4]”

PADEP Regulations:

25 Pa. Code. §272.251 of the Commonwealth of Pennsylvania’s Municipal Waste Regulations requires that counties submit a revised Plan to the PADEP at the earliest of the following events:

- at least three years prior to the expiration of the capacity assurances necessary to dispose or process the municipal waste generated in the county
- at least 3 years prior to the expiration of the term of the County’s approved plan
- or, when otherwise required by the Department

Purpose and Intent of Plan Preparation:

This Plan was developed by a Team, consisting of the Solid Waste Advisory Committee (SWAC), representatives of the County Department of Waste Management, and the Consulting Engineer selected for this Project (L.R. Kimball). The Team’s vision and approach in preparing this Plan Update, and the understanding of the goals to be accomplished through this process were multifaceted:

- to gather accurate waste generation and recycling data, and to make realistic projections of future growth in population and waste/recycling generation in the County
- to identify current waste hauling and disposal patterns, and to evaluate the availability of services for the collection, transportation and disposal of waste and the recovery of recyclables within the County
- to provide a professional assessment of available waste processing and disposal technologies that could be considered in conjunction with current public operations
- to assess the economics of waste management in the County; to accurately reflect the marketplace under which the County operates; and to establish/confirm how to stay competitive in the marketplace
- to assure adequate waste disposal capacity is available in the County for at least the next 10 years (from January 2015 through December of 2024)
- to analyze ways to logically improve the quality of life and level of service to the County's residents and businesses, including prospects for expanding recycling opportunities in the County
- to identify improvements to the current waste management system, such as waste transfer, processing and waste diversion options, enhanced recycling, and voluntary fee collection and/or service options, that can improve the economics, level of service, and support for programs offered in the County
- to encourage input and feedback from the municipal, business, recycling, waste industry, and citizens stakeholder groups throughout the planning process, and to develop consensus among the stakeholders for a preferred system of waste and recyclables management in the County
- to develop a logical, practical, and implementable County Municipal Solid Waste Management Plan.

In addition, this revision also discusses the County recycling programs, including:

- review of current municipal recycling activities in Beaver County
- methods for enhancement of recycling opportunities
- alternative approaches to waste reduction and minimization
- methods for the initiation and expansion of household hazardous waste (HHW) collection programs

Potential Benefits to the County by implementing this Plan are numerous, and include:

- improved health through the reduction of illegal dumping of waste materials
- improved safety resulting from fewer tire piles and illegal dumps, which can lead to fires, dangerous runoff and promotion of vermin
- economic opportunities to the local residents through expanded waste collection and recycling
- decreased liability associated with illicit disposal of waste materials or failure to comply with State and Federal requirements
- expansion of recycling within the County, which will reduce the costs associated with landfill disposal and provide raw materials for innovative "green businesses"
- improved access to available grant funding, as a result of updated record keeping
- expanded access to waste disposal and recycling to portions of the County that had been previously underserved

EXECUTIVE SUMMARY

Beaver County has elected to develop an update to the 2004 Municipal Solid Waste Management Plan. This Plan will supersede the current Plan, and was prepared under the guidelines required by Act 101, as defined in the PA Code 25 §272.221- 272.233.

This Plan was developed by a Team, consisting of the Solid Waste Advisory Committee (SWAC), representatives of the County Department of Waste Management, and the Consulting Engineer selected for this Project (L.R. Kimball).

The goal of the Plan development was to:

- gather accurate recent data, and develop realistic projections of future County municipal waste generation
- recommend improvements in the current waste management system
- develop a logical, practical, implementable and defensible solid waste plan that meets the needs of the county
- have the County execute 10-yr Disposal Capacity Agreements with designated landfills and/ or waste processing sites
- encourage expanded recycling where appropriate

The Plan development process was initiated by representatives of the County in 2010, a Consultant (MSW Consultants) was selected, and a Municipal Waste Planning Grant initiated between the County and PADEP on August 30, 2010. MSW Consultants began gathering data for the Plan update in 2011, but due to the departure of some staff, the contract between MSW Consultants and the County was terminated in November of 2012, at which time a new consultant (LR Kimball) was selected and tasked with completing the Plan update.

During the planning process, 3 SWAC meetings were held to identify and discuss solid waste and recycling issues and solutions, and to solicit input and feedback on draft plan materials. A series of draft submittals were made to the SWAC and to the PADEP, and the Final Draft submission was completed in March of 2013. Two additional SWAC meetings were subsequently completed following receipt of comments from the PADEP and committee members, the first on November 21, 2013, and the final SWAC meeting completed on May 6, 2014.

After completion of the Final Draft version of the Plan update, copies were submitted to the PADEP and to the County Municipalities for review and comment. Responses to comments generated during this process were developed, and the Final Plan version was presented to the County Commissioners for review in June of 2014, with subsequent approval of the Plan Update on June 26, 2014. After receipt of final approval of the Ratified Plan from the PADEP, Final versions of the Plan Update will be submitted to each County Municipality, and a one-year implementation period will follow, during which the various forms and agreements will be signed.

The Final Draft Plan includes the following:

- Description of Waste & Estimated Future Capacity Requirements
- Description of Facilities
- Description of Recyclable Materials
- Selection and Justification of Municipal Waste Management Program
- Discussion of the Public Function
- Waste and Recycling System Options and Recommendations
- Description of Extension of Waste Management Systems

- Implementing Documents
- Description of Public Participation Activities
- Implementation Schedule

As part of the Plan development, a preliminary analysis of the benefits and costs associated with a possible transfer station was performed, with the conclusion that a transfer station may be viable within Beaver County, but that the potential for a transfer station be assessed in more detail over the first few years of the 10-year coverage period. In the event that the County Commissioners choose to move forward with a transfer station (or recycling facility consolidation center) it may be necessary to update the Municipal Solid Waste Management Plan, with a Substantial Plan Revision.

Specific recommendations regarding: the collection of refuse and recyclables; and the handling of e-waste, construction & demolition waste, household hazardous waste, and pharmaceutical waste were also prepared and included in the Plan Update. Also, illegal dumping and open burning issues were discussed. Recommendations regarding burning ordinances were included in the Plan, along with methods to promote recycling throughout the County. A list of prospective measures to expand and sustain integrated waste and recyclables management programs in the County was developed for consideration and possible future action.

A Solicitation of Interest (SOI) was prepared to pre-qualify interested waste transfer and disposal sites that meet minimum submission criteria, and to tentatively identify qualified disposal facilities from the SOI process as designated facilities in the Plan. A designated facility, once a contract is executed, would be permitted to receive municipal wastes generated from within the County over the next ten years, although the initial term of agreement for the designated disposal facilities will be 5 years. The County Commissioners (at the recommendation of the County Department of Solid Waste Management) will have the option to renew any or all disposal agreements for an additional term of 5 years.

In anticipation of the submission of the SOI, an advertisement was placed in the national magazine Waste360 in November of 2013, with a request that interested facilities contact the County Department of Solid Waste Management in order to obtain copies of the SOI. In addition, each of the disposal facilities that have recently accepted waste from Beaver County was notified individually, to assure that they were aware of the solicitation notice.

A total of eight disposal facilities subsequently submitted responses to the SOI and agreed to participate in negotiations with the County to be qualified as designated sites. Each of the SOI submittals was reviewed and a summary table was prepared identifying the specific responses. (See Tables 1 and 2 in Appendix D.) Meetings with each of the disposal facility respondents were arranged in June of 2014, and the negotiation process is still in progress. Once negotiations are complete, disposal facilities that have completed a Disposal Agreement will be included in the Plan Update.

Multiple waste transfer stations also responded to the SOI, agreeing to utilize designated facilities in the County Plan for disposal of municipal wastes generated within the County and handled by their transfer station.

A summary of these facilities was included in the Sections 5.9 and 5.10 of the Final Draft Plan and in Appendix D.

1. DESCRIPTION OF WASTE (per 25 Pa. Code. § 272.223)

The purpose of Chapter 1 is to describe the types and quantities of municipal solid waste (MSW) generated in Beaver County that must be managed by the municipal solid waste system defined in this Municipal Solid Waste Management Plan (Plan). Current and historical data were used to estimate the quantity of municipal waste generated annually, including: annual County Waste Destination Reports provided by the Pennsylvania Department of Environmental Protection (DEP), annual Municipal Recycling Reports, waste disposal data collected from out-of-state disposal facilities by the County, and data from targeted surveys conducted in the County. A summary of this information is provided in this chapter.

This Plan updates Beaver County's 2004 Plan, which was submitted to the County and was subsequently approved by the DEP. The current plan updates all relevant and/or out-of-date information from the 2004 Plan. This Plan update follows the direction of "Guidelines for the Development and Implementation of County Municipal Waste Management Plan Revisions" or Document Number 254-2212-504 issued by the Pennsylvania Department of Environmental Protection. It should be noted that DEP does not require every section to be updated and therefore, only a minimal survey of municipal waste generators was performed, as there has been little change in the County's municipal waste management system over the past decade.

The information provided in Chapter 1 was the basis for projecting the municipal solid waste disposal capacity needs of Beaver County for the next 10 years. Ultimately, this Chapter defines the disposal capacity required by Beaver County based on waste generation and diversion practices.

1.1 BACKGROUND

Pennsylvania's Act 101, the "Municipal Waste Planning, Recycling and Waste Reduction Act" mandated that Pennsylvania's counties develop formal plans for management of all MSW generated within their boundaries, and review/update these plans every ten (10) years at a minimum.

Beaver County prepared their initial Municipal Waste Management Plan in 1991, and a Plan update was initiated in 2000, and finalized in 2004. In that Plan Update, municipal waste projections were based on waste disposal and recycling data collected between 1996 and 1999, as well as the County population in 1999 (194,706 people). This data was used to estimate the average waste generation rate (4.47 lbs/capita/day, or 0.82 tons/capita/year) and the generation rate associated with landfill disposal (3.786 lbs/capita/day, or 0.69 tons/capita/year).

Based on the projected population increase (to 205,234 people by 2010), it was estimated that a total disposal capacity of 1,800,000 tons would be required over the 10-yr period from 2001 – 2010.

The total municipal waste data was subdivided into 5 categories: municipal, sewage sludge, construction & demolition (C&D), asbestos and infectious, although data for all 5 categories was not readily available in all cases.

It was also noted in the Plan Update that 7 landfills had participated in disposal of waste from Beaver County during the 1996-1999 period, including 1 in Ohio, 1 in West Virginia and the remaining 5 in Pennsylvania.

A summary of the 2004 Plan Update is included in Appendix C.

1.2 POPULATION

The 2010 US census indicated that the County population had actually decreased to 170,539 people (as compared to the projected increase to 205,234). This represented an approximate 6% decrease in population, reflecting a decreasing population trend dating back to 1970 (when the population was 208,418).

Based on the average waste generation rate computed in the 2004 Plan Update (0.82 tons/capita/year), the total waste generated in 2010 should have been roughly 140,000 tons, and the landfilled tonnage (at 0.69 tons/capita/year) should have been roughly 117,700 tons.

Based on the actual tonnages reported to have been disposed and recycled in 2010 (as discussed in Sections 1.3 and 4.1, respectively), it appears that the total waste generation and landfilled material rates are currently roughly 1.6 and 1.4 tons/capita/year, respectively.

The County is composed of the following municipal breakdown:

- 2 Cities (Aliquippa and Beaver Falls)
- 30 Boroughs
- 22 Townships
- 7 Unincorporated Communities

1.3 MUNICIPAL WASTE

The County's municipal waste stream is generated by residences, businesses, institutions, industrial offices and cafeterias, and includes both wastes destined for disposal and also a wide range of source-separated recyclable materials.

Beaver County is geographically bounded on the northwest side by Columbiana County, Ohio and on the southwest side by Hancock County, West Virginia. As a result, disposal of Beaver County municipal waste at out-of-state landfills continues to be quite common. Between 2001 and 2011, waste generated in the County was deposited in three out-of-state landfills (two in Ohio and one in West Virginia), as well as in six Pennsylvania landfills.

For most Pennsylvania counties, municipal waste stream characterization is typically derived using the PADEP County Waste Destination Reports, which uses information from the Municipal Waste Landfill and Resource Recovery Quarterly Operation and Recycling Fee Reports. Since the Waste Destination Reports only track municipal waste material that is disposed within Pennsylvania landfills, and since Beaver County waste was also disposed in out-of-state facilities, these reports were not used for this Plan Update.

Instead, data was obtained from the database maintained by the Beaver County Department of Waste Management, based on information supplied quarterly by the receiving landfills.

Based on the data accumulated by the County Department of Waste Management, a summary of waste types and tonnages is shown in the following table, and in more detail on the table and charts found in Appendix A, for the years 2001 through 2011.

Table 1
2001-2011 BEAVER COUNTY WASTE DISPOSAL

WASTE TYPE	TOTAL TONS	AVERAGE TONS	% OF TOTAL
Residential	1,474,714	134,065	55.4%
Commercial	536,544	48,777	20.2%
Sewage Sludge	106,743	9,704	4.0%
C&D	261,341	23,758	9.8%
Residual	272,353	24,759	10.2%
Infectious	5,374	489	0.2%
Flood Debris	116	11	0.0%
Asbestos	4,449	404	0.2%
TOTALS	2,661,635	241,967	100.0%

Note that the “Flood Debris” line item represented a one-time disposal issue (in 2004) at one facility (Seneca Landfill in Butler Co, PA). Although it was a substantial tonnage of material for one event, it is rather insignificant with respect to the total waste that was disposed.

In addition, note that the “Asbestos” line item represents a specific waste stream that was accepted by one facility (BFI Imperial Landfill) between 2006 and 2011. Again, although 4,449 tons is a substantial number, it is rather insignificant compared to the tonnages from the other waste streams. It is only noted here as a separate line item since it was categorized separately in the County database.

Of the total tonnage disposed of in landfills, roughly 32% (841,000 tons total, or roughly 76,500 tons/year) was placed in out-of-state landfills over the 11-year period. (Again, since the PADEP only tracks in-state landfills tonnages, this total will not appear on the DEP databases.)

Based on the above data, the total per capita generation rate associated with landfill disposal in 2010 (242,183 tons) was roughly **1.42 tons/capita**. This is significantly higher than the per capita generation rate associated with landfill disposal assumed for the 2004 Plan Update (0.69 tons/capita/year). However, this value includes the waste streams categorized as “Commercial” and “Residual Waste”, which are typically excluded from “Municipal Waste”. In addition, the waste stream “C&D” includes unusually high tonnages, probably associated with regional demolition. If these waste streams are removed from the calculation, leaving a disposed total of 104,547 tons, the annual per capita generation rate associated with landfill disposal is roughly **0.61 tons/capita**.

(By way of comparison, the average annual per capita landfill disposal rate across the US, as reported by the EPA, is 0.53 tons/capita. At a rate of 0.53 tons/capita, the 2010 disposal totals would have been closer to 90,400 tons.)

1.4 CONSTRUCTION & DEMOLITION WASTE

Construction waste includes solid waste resulting from the construction or demolition of buildings and other structures, including but not limited to, wood, plaster, metals, asphaltic substances, bricks, block, and un-segregated concrete. Table 1 shows that the total amount of construction and demolition (C&D) waste reported over the 11 period from 2001 – 2011 was 261,341 tons, representing roughly 9.8% of the total disposed waste generated in the County.

Based on the data collected by the Beaver County Department of Waste Management for this period, it is noted that there was a dramatic increase in landfilled Beaver County C&D material beginning in 2006, primarily attributable to increased tonnages received at the JJ Brunner Landfill.

The total C&D tonnage disposed increased from roughly 2,300 tons in 2005 to nearly 46,000 tons by 2007, and then averaged roughly 43,250 tons from 2007 through 2011, although the annual total decreased by 6,764 tons between 2007 and 2011.

As the economic recovery is anticipated to slowly take shape, but not reach the levels of the mid 2000s, the estimated amount of C&D disposed for the ten-year planning period was adjusted for population change based on 2010 disposal data (i.e., C&D is projected to track with population).

No research has been done to determine the major components of the C&D waste stream in Beaver County and the potential to recover some of these components for recycling. With the C&D waste stream accounting for just under 43,000 tons in 2010 (out of an approximate total of 242,183 tons landfilled) the relatively small quantity compared to the overall waste stream makes aggressive recycling options difficult.

1.5 BIO-SOLIDS AND SEPTAGE WASTE

Sewage sludge and septage waste – commonly referred to as bio solids – is in Pennsylvania considered to be a type of municipal waste. As such, the municipal waste projections presented in this section and subsequent sections include septage waste. Sewage sludge is generated by waste water treatment plants as a result of removing and processing solids from the water during the treatment process.

Septage waste on the other hand is material that is removed from septic tanks and which generally has a higher liquid content than sewage sludge. Due to its high liquid content, septage waste collected from County sources has been found to largely be processed at wastewater treatment facilities in and around Beaver County. The solids from this waste stream then become part of the sewage sludge which is largely disposed of at landfills contracted for disposal capacity.

Over the 11-year period from 2001 – 2011, the quantity of sewage sludge landfilled has varied from 7,400 tons in 2003 to 11,237 tons in 2010, with an average of 9,704 tons. As reported in the 2004 Plan Update, between 1996 and 1999, sewage sludge averaged 8,120 tons.

Based on the 2010 population estimate (see Section 1.2), the per capita generation of sewage sludge that was landfilled was computed to be roughly 0.06 tons per capita, for waste originating in Beaver County and disposed in five landfills (4 in PA and 1 in OH). The per capita landfill disposal in 1999 was computed to be roughly 0.045 tons/capita. (The difference may be partially a function of disposal method, since it was noted in 1999 that 8% of the sewage sludge was either land applied or deposited in “reed beds”. No specific information was available regarding land application or use of reed beds in 2010.)

In 2010, the majority of the sewage sludge waste (77%) was disposed of in the JJ Brunner Landfill in New Sewickley Township, in Beaver County.

1.6 INFECTIOUS AND CHEMOTHERAPEUTIC WASTE

Pennsylvania defines infectious and chemotherapeutic waste (ICW) as material generated by hospitals, nursing homes, clinics, dental and medical offices, as part of the municipal waste stream. Since the last Plan update there has been no change in how ICW is managed.

In Beaver County, each facility makes individual arrangements for handling and disposition of ICW via the private sector.

Based on the data accumulated by the County Department of Waste Management, a total of 5,374 tons of infectious waste, generated in Beaver County, was landfilled, with all of that total disposed of at the Arden Landfill in Washington County, Pennsylvania.

It should be noted that the collected data indicated that there was no ICW landfilled between 2001 and 2006. Since this is extremely unlikely, it is assumed that the ICW material was landfilled, but identified under a different waste stream category, or simply not reported to the County.

In the 2004 Plan Update, it was noted that data for ICW disposal was only available for the year 1997, probably for the same reasons discussed above.

1.7 RESIDUAL WASTE

Residual waste is material generated as a by-product of an industrial process. It can be composed of garbage, refuse, discarded material, or other waste, including solid, liquid, semi-solid, or contained gaseous materials resulting from industrial, mining, and/or agricultural operations. This could also, in theory, mean ash generated from combustion at a coal fired power plants; however, this type of ash waste is generally handled at privately-owned and operated, captive Residual Waste Landfills, so is not typically included in County waste generation statistics.

The Beaver County Department of Waste Management has documented landfill disposal tonnages between 2001 and 2011, and this data has been used for the purposes of this Plan Update. As discussed in Section 1.3, the County data had identified “Residential” and “Commercial” waste as separate categories. Based on a comparison of data from the 2004 Plan Update, it is assumed herein that the “Commercial” waste category has previously been included with “Residual” waste, so these two categories (Commercial and Residual) have been combined for the 2014 Plan Update.

Based on this combined data, the total tonnage of Residual waste landfilled between 2001 and 2011 was 808,898 tons, or an average of roughly 73,536 per year. This ranged from 49,350 tons in 2003 to over 100,000 tons in 2011, showing a considerable annual variation, but a general increasing trend with time.

While the Plan Update is not required to account for the composition of, or provide capacity for this waste stream, it does recognize the volume generated as it can compete for capacity with the County’s municipal waste.

1.8 COUNTY MUNICIPAL WASTE COLLECTION PRACTICES

Within the 2004 Plan Update, a table had been included identifying the methods local governments use with regard to waste collection and recycling activities. For the 2014 Plan Update, 2 similar tables were generated (Tables 2 and 9) to update this information, with the waste collection information as follows:

**Table 2
MUNICIPAL WASTE COLLECTION METHODS**

MUNICIPALITY	POPULATION	COLLECTOR	BILLING METHOD	DISPOSAL SITE
Aliquippa	9438	Waste Management	Quarterly	Mahoning OH/ Arden PA
Ambridge	7050	Brunner	Flat Fee	Brunners
Baden	4135	Waste Management	Flat Fee	Mahoning OH/ Arden PA
Beaver	4531	Brunner	Per Can	Brunners
Beaver Falls	8987	Valley	Quarterly	Seneca
Bridgewater	704	Young	Flat Fee	Mahoning
Brighton Township	8227	Young	Flat Fee	Mahoning
Center Township	11795	Waste Management	Flat Fee	Mahoning OH/ Arden PA
Chippewa	7620	Valley	Quarterly	Seneca
Conway	2176	Valley	Flat Fee	Seneca
Darlington Borough	254	Ind. Sub		
Darlington Township	1962	Ind. Sub		
Daugherty	3187	Ind. Sub		
East Rochester	567	Ind. Sub		
Eastvalle	225	Ind. Sub		
Economy	8970	E. Reed Powell	Quarterly	Various Sites
Fallston	266	Ind. Sub		
Frankford spring	130	Ind. Sub		
Franklin Township	4052	Ind. Sub		
Freedom	1569	Waste Management	Quarterly	Mahoning OH/ Arden PA
Georgetown Borough	174	Ind. Sub		
Glassglow	60	Ind. Sub		
Green Township	2356	Ind. Sub		
Hanover	3690	Ind. Sub		
Harmony	3197	Valley	Flat Fee	Seneca
Homewood	109	Ind. Sub		
Hookstown	147	Ind. Sub		
Hopewell	12433	Waste Management	Flat Fee	Mahoning OH/ Arden PA
Independence	2503	Ind. Sub		
Industry	1835	Young	Quarterly	Mahoning
Koppel	762	Young	Monthly	Mahoning
Marion	913	Ind. Sub		
Midland	2635	Waste Management	Quarterly	Mahoning OH/ Arden PA
Monaca	5737	Waste Management	Quarterly	Mahoning OH/ Arden PA
New Brighton Borough	6025	Waste Management	Quarterly	Mahoning OH/ Arden PA
New Galilee	379	No Answer		
New Sewickley	7360	Ind. Sub		
North Sewickley	5488	Ind. Sub		
Ohioville	3533	Young	Quarterly	Mahoning OH
Patterson Heights	636	Ind. Sub		
Patterson Township	3029	Valley	Flat Fee	Seneca
Potter	548	Young	Flat Fee	Mahoning OH
Pulaski	1500	Ind. Sub		
Raccoon	3064	Ind. Sub		
Rochester Borough	3657	Valley	Quarterly	Seneca
Rochester Township	2802	Valley	Quarterly	Seneca
Shippingport Borough	214	Young	Flat Fee	Mahoning OH

MUNICIPALITY	POPULATION	COLLECTOR	BILLING METHOD	DISPOSAL SITE
South Heights	475	No Answer		
Vanport	1321	Ind. Sub		
West Mayfield	1239	Ind. Sub		
White	1394	Young	Quarterly	Mahoning OH

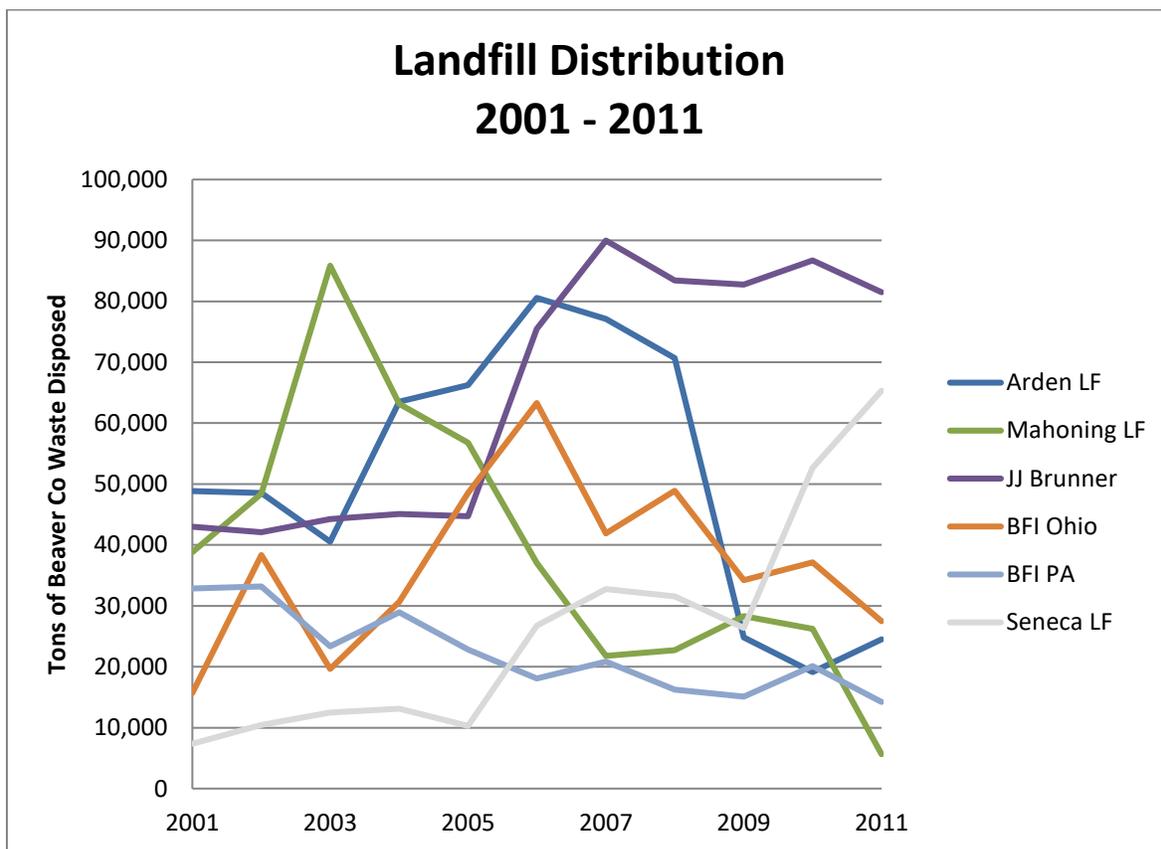
2. DESCRIPTION OF FACILITIES (per 25 Pa. Code. § 272.224)

This Chapter describes the facilities currently being used to manage the MSW generated in Beaver County.

2.1 CURRENT FACILITIES FOR MANAGEMENT OF WASTE

According to the Beaver County Department of Solid Waste Management database, between 2001 and 2011, there were nine disposal facilities that accepted municipal waste generated within Beaver County.

During this period, the majority of the waste was disposed at the JJ Brunner Landfill (27.0%) and the Arden Landfill (21.2%), in Beaver and Washington Counties, respectively. Three of the remaining disposal facilities (Seneca Landfill, Northwest Sanitary Landfill, and BFI PA) are located close by in Butler or Allegheny Counties, in PA. Two of the landfills (Mahoning, and BFI Ohio) are located in Ohio, and a third (Brooke LF) is located in West Virginia. The final facility, Greenridge, is located in Westmoreland County, PA.



Note that the above chart does not include tonnages associated with the Northwest Sanitary, Greenridge or Brooke Landfills, since they received minimal amounts of material.

Table 3, below, contains a list of the facilities currently under contract with, or currently receiving municipal waste for disposal from Beaver County.

**Table 3
CURRENT WASTE DISPOSAL FACILITIES**

FACILITY NAME	FACILITY ADDRESS	COUNTY	PERMIT INFORMATION	OWNER
Arden Landfill, Inc.	200 Rangos Lane Washington, PA 15301	Washington County	Permit #100172	Waste Management
BFI OH – Carbon Limestone Sanitary Landfill	8100 South Stateline Road Lowellville, OH 44436	Mahoning County	CID 28726	BFI Waste Systems of North America
BFI PA – Imperial Landfill	PO Box 47, 11 Bogs Road Imperial, PA 15301	Allegheny County	Permit #100620	BFI Waste Systems of North America
Brooke County Landfill	R.D. #2, Box 410 Colliers, WV 26035	Brooke County	R30-00900053-2007	J.P. Mascaro and Sons
Greenridge Reclamation Waste Services	RR#1 Box 716 Landfill Road Scottdale, PA 15683	Westmoreland County	Permit #100281	Allied Waste industries, Inc.
Joseph J. Brunner, Inc. Landfill	211 Brunner Road Zelienople, PA 16063	Beaver County	Permit #101439	Joseph J. Brunner, Inc.
Mahoning Landfill, Inc.	3510 Garfield Road New Springfield, OH 44443	Mahoning County	CID 29084	Waste Management
Northwest Sanitary Landfill	1436 West Sunbury Road West Sunbury, PA 16061	Butler County	Permit #100585	Waste Management
Seneca Landfill, Inc.	P.O. Box 1080 Mars, PA 16046	Butler County	Permit #100403	Vogel Disposal Services, Inc

Each of the facilities shown in Table 3 that are located in Pennsylvania has been issued a permit by the PA Department of Environmental Protection to operate under Pennsylvania Municipal Waste Regulations which meets the Federal Subtitle D criteria. The two Ohio landfills operate under permits issued by the Ohio EPA, and the Brooke County Landfill is permitted by the West Virginia DEP. Permit numbers for each facility are shown above.

As part of this Plan development, a Solicitation of Interest (SOI) was issued to obtain new Agreements with disposal facilities interested in providing disposal capacity assurance to Beaver County. Each of the facilities listed above was contacted to gauge interest in participating in this process, along with other facilities that would like to be added to the list. The remaining available permitted capacity of each facility, including that from anticipated expansion, was documented in their response to the SOI, along with a discussion of the potential for impairment of the facility by the Plan implementation.

In addition to the disposal facilities listed above, it is believed that some portion of the waste stream generated in Beaver County is processed through private transfer stations. However, information regarding the specific transfer facilities that may be in use is not readily available. See Table 2 in Chapter 1 for a listing of collector/haulers in each municipality and the disposal facility that is utilized by each, although it is not known if transfer facilities are utilized by these haulers.

2.2 CURRENT FACILITIES FOR MANAGEMENT OF RECYCLABLES

- **Recycling Center**

The County owns and operates a Recycling Center located off of Route 51 in Brady's Run Park, in Brighton Township. The facility accepts material on Tuesdays and Thursdays, from 9:00 AM until 4:00 PM, and on the 1st and 3rd Saturdays of each month, from 9:00 AM until 1:00 PM.

A detailed list of materials that are accepted at the site can be found on the County Department of Waste Management website at: http://www.beavercountyrecycling.com/recycling_ctr.html

- **Animal Bedding Program**

In addition, the County also operates a newspaper recycling program intended to provide free animal bedding for local farmers, with drop-off locations at various places within the County. Preparation guidelines for the animal Bedding Program, as well as drop-off locations, are included on the Department website at: http://www.beavercountyrecycling.com/animal_bedding.html

- **Backyard Composting Program**

The County has developed and implemented a backyard composting educational program for County residents. The program includes a comprehensive display for county residents, and an annual composting workshop. More details on the program can be found at: http://www.beavercountyrecycling.com/backyard_composting.html

- **Beaver County Composting Facility**

Beaver County operates a Composting Land Application Program for municipal and commercial level participation. The program provides for beneficial use of organic yard waste through a user fee based program, which consists of a 5-acre county compost site and numerous processing and land application sites located throughout the county. The Department of Waste Management has prepared several program booklets (see Appendix B for copies of the booklets) prepared specifically for Municipalities, for Small Volume Contractors and for Large Volume Contractors.

Further detailed information regarding recycling and composting opportunities is available at the Department of Waste Management office, located at 469 Constitution Boulevard, New Brighton, PA, 15066.

- **Private Recycling Facilities**

In addition to the County Facilities listed above, there are several privately operated recycling facilities that collect and process material generated in Beaver County. These facilities are listed and discussed in more detail in Section 4.4 of the Plan, as well as in the Beaver County Recycling Resource Directory (see Appendix B).

3. ESTIMATED FUTURE CAPACITY (per 25 Pa. Code. § 272.225)

3.1 REQUIRED TONNAGE CAPACITY

As described in Chapter 1, population is a reasonable indicator of waste generation. The reported disposal tonnage (which uses County waste disposal reports and population data) is the best available basis for projecting municipal waste generation figures for the 10-year planning period, to estimate the waste disposal/processing capacity required by the County. Table 7 contains the data, sources, and assumptions used to project future capacity needs. The parameters contained in the table include:

Population: Municipal waste generation is a function of a number of socio-economic factors; however, population has been found to serve as a reasonable indicator of waste generation. The PA State Data Center developed a spreadsheet entitled [Pennsylvania County Population Projections, 2000-2030](#), based on the 2000 Census. In this document, Beaver County's population was forecast to decrease by 7.1 percent (in total) from 2000 to 2010, and to decrease by an additional 6.2 percent from 2010 to 2020, and by 6.6% from 2020 to 2030. The actual change between 2000 and 2010, as documented in the 2010 Census, was roughly a 6.0% decrease in population. In spite of the recent decreasing trends, the Southwestern Pennsylvania Commission (SPC) has predicted a slight increase in population for the next 3 5-year increments, amounting to an increase of 1.2% between 2010 and 2015, 1.6% between 2015 and 2020, and 2.3% between 2020 and 2025, primarily in anticipation of the impacts of projected development of oil and gas systems associated with the Marcellus Shale industry.

Table 7 shows annual population estimates, assuming that the population increases at the rates projected by the SPC through 2023.

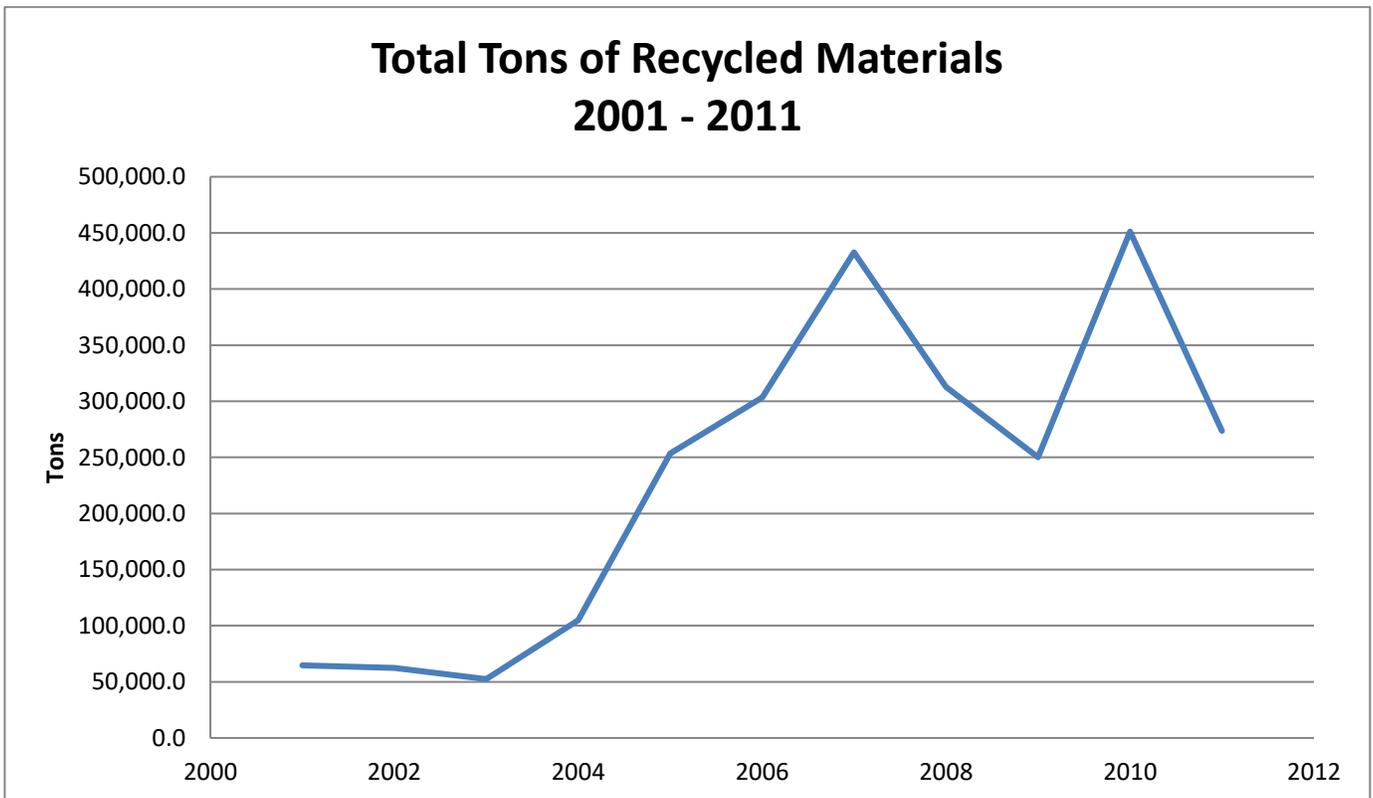
Impact of Recycling: Beaver County has several residential and commercial recycling programs currently in place. These recycling programs, which include some residential curbside collection, residential drop-off collection, and commercial on-site collection, will reduce the amount of generated waste that ultimately requires disposal. Table 7 assumes that reported recycled material tonnages will vary at the same rate as the projected population for the duration of the planning period. Implicit in this assumption is that the County will maintain its current level of recycling and waste reduction, which as of 2010 was roughly 13.4 percent of its total generated waste stream - through public and privately-initiated recycling and waste reduction efforts.

Future Disposal Capacity Needs: Future disposal needs are calculated by deducting recycled wastes from generated wastes. As shown in Table A.6 (Appendix A), beginning in 2015, Beaver County will need to dispose of approximately 243,000 tons per year, increasing to just over 250,000 tons at the conclusion of the 10-year Plan. Disposal Capacity will be necessary for a total of nearly 2,460,000 tons during the 10-year period between January 1, 2015 and December 31, 2024.

Based on the information obtained from the PADEP ReTrac System, the following table shows the total tonnages of material recycled between 2001 and 2011, subdivided by the source of material (residential versus commercial) and the type of material.

**Table 4
2001 – 2011 TOTAL RECYCLED TONS**

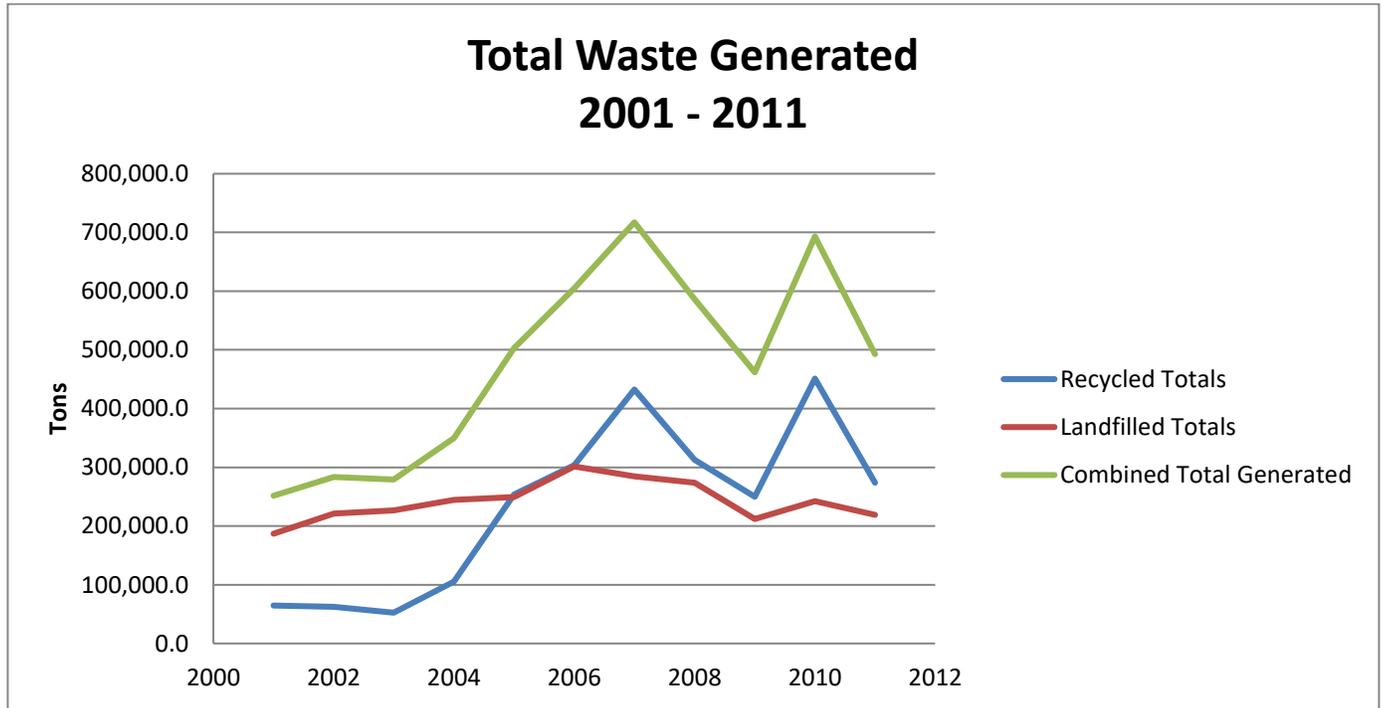
YEAR	RESIDENTIAL RECYCLING (Tons)	RESIDENTIAL HOUSEHOLD HAZARDOUS WASTE (Tons)	RESIDENTIAL ORGANICS (Tons)	COMMERCIAL RECYCLING (Tons)	COMMERCIAL ORGANICS (Tons)	TOTAL
2001	7,058.8	469.0	4,274.2	52,806.9	145.7	64,754.6
2002	20,635.6	3,853.0	3,424.1	34,288.3	82.7	62,283.7
2003	16,122.0	1,056.9	3,351.3	31,830.8	57.4	52,418.4
2004	19,435.1	45,841.5	2,890.0	36,737.5	97.9	105,002.0
2005	15,219.6	873.4	4,417.7	232,919.0	141.2	253,570.9
2006	37,858.7	1,044.0	6,423.0	257,757.7	256.2	303,339.6
2007	11,436.0	1,026.6	6,153.2	413,464.5	619.8	432,700.1
2008	14,280.9	1,221.5	6,174.3	290,292.8	724.8	312,694.4
2009	7,926.9	1,585.0	6,945.6	233,533.5	86.5	250,077.4
2010	59,592.9	715.6	6,096.7	381,246.2	3,503.1	451,154.4
2011	58,377.7	1,104.8	3,531.0	207,570.7	3,013.3	273,597.5



If the total “recycled” tonnages listed above are combined with the total “landfilled” tonnages discussed in Chapter 1, the total waste generated in the County between 2001 and 2011 can be summarized as follows:

**Table 5
2001 – 2011 TOTAL WASTE TONS GENERATED**

YEAR	RECYCLED AND HHW TOTALS (Tons)	LANDFILLED TOTALS (Tons)	COMBINED TOTAL GENERATED (Tons)
2001	64,754.6	186,836.9	251,591.5
2002	62,283.7	221,219.3	283,503.0
2003	52,418.4	226,716.0	279,134.4
2004	105,002.0	244,717.4	349,719.4
2005	253,570.9	249,528.0	503,098.9
2006	303,339.6	301,459.5	604,799.1
2007	432,700.1	284,624.8	717,324.9
2008	312,694.4	273,752.3	586,446.7
2009	250,077.4	211,746.6	461,824.0
2010	451,154.4	242,182.6	693,337.0
2011	273,597.5	218,851.7	492,449.2

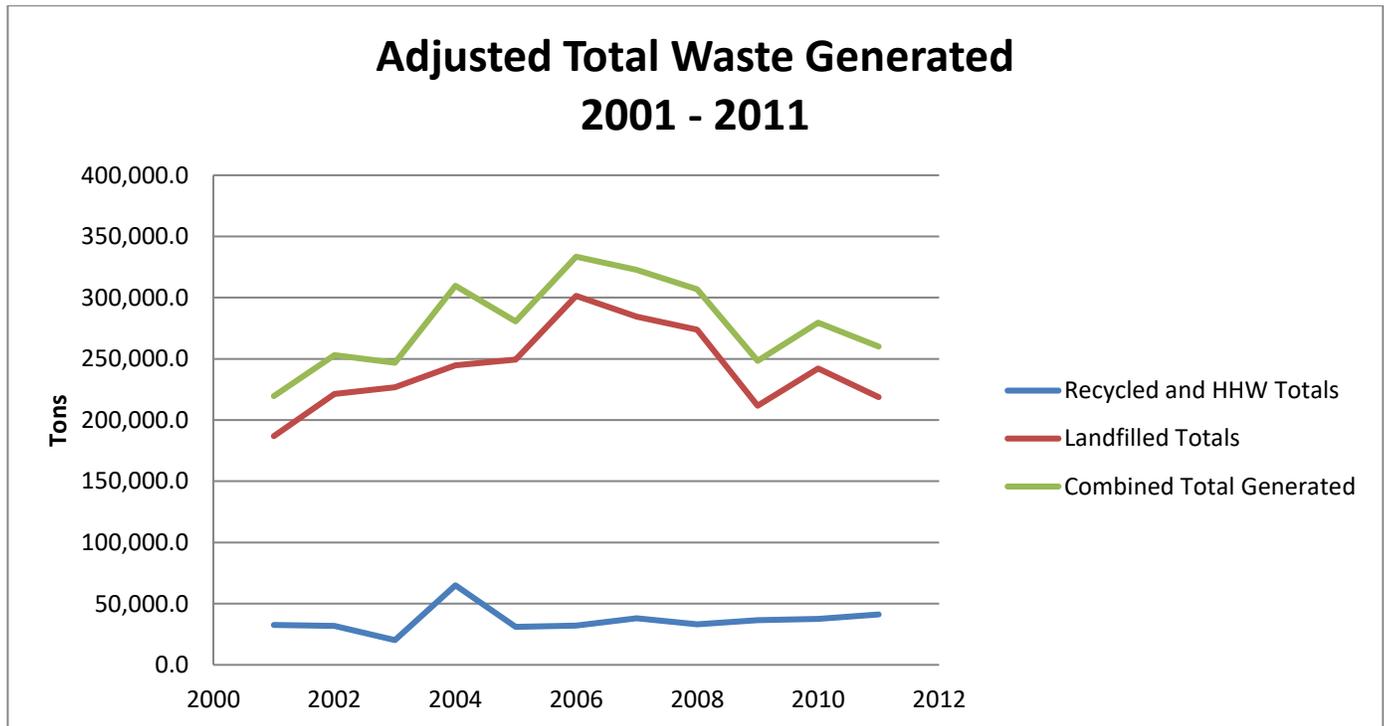


Using the population values discussed in the Section 1.2, the per capita waste tonnage generated in 2010 computes to over 4 tons/capita. However, as discussed in Section 4.1, a substantial portion of the material recycled in Beaver County appears to be White Goods, asphalt, ferrous metal, and stainless steel, associated with commercial/industrial activities. As such, it would appear inappropriate to include those values as part of the per capita waste generation values.

Subtracting those items from the Residential and Commercial recycling values yields the following table:

**Table 6
2001 – 2011 TOTAL ADJUSTED WASTE TONS GENERATED**

YEAR	RECYCLED AND HHW TOTALS (Tons)	LANDFILLED TOTALS (Tons)	COMBINED TOTAL GENERATED (Tons)
2001	32,719.0	186,836.9	219,555.9
2002	31,945.3	221,219.3	253,164.6
2003	20,218.5	226,716.0	246,934.5
2004	65,011.2	244,717.4	309,728.6
2005	30,960.7	249,528.0	280,488.7
2006	32,019.3	301,459.5	333,478.8
2007	37,965.5	284,624.8	322,590.3
2008	33,116.1	273,752.3	306,868.4
2009	36,577.5	211,746.6	248,324.1
2010	37,509.5	242,182.6	279,692.1
2011	41,284.9	218,851.7	260,136.6



This modification results in an adjusted 2010 per capita total waste generation of roughly 1.6 tons/capita (or nearly nine pounds/capita/day), and an adjusted recycling/HHW rate of roughly 13.4% of the total waste generated.

In an effort to validate this calculation for use in projecting future tonnages, it should be noted that the calculated per capita generation value of roughly 9 pounds per person per day (using the 2010 population data) is higher than what would be expected. This higher generation rate is most likely due to the industrial history of the County, and it is suspected that a portion of the total tonnage represents material brought into the County for commercial/industrial purposes. However, this value was used for the generation of Future Projected Municipal Waste Quantities for Disposal and for Recycling, since the numbers are quite consistent for the study period (2001 – 2011).

**Table 7
FUTURE PROJECTED MUNICIPAL WASTE QUANTITIES FOR DISPOSAL AND RECYCLING**

	2010	2015	2020	2023
County Population¹	170,539	171,132	173,793	176,227
MSW DISPOSED (TONS) ²				
Residential	91,937	92,257	93,691	95,003
Commercial	52,235	52,417	53,232	53,977
Sewage Sludge	11,237	11,276	11,451	11,611
C&D	42,760	42,909	43,576	44,186
Residual	42,640	42,789	43,454	44,062
Infectious	1,018	1,021	1,037	1,052
Asbestos	355	357	362	367
Subtotal MSW Disposed	242,183	243,025	246,804	250,260
RECYCLED QUANTITIES				
Residential³	7,189	7,214	7,326	7,429
Commercial⁴	20,005	20,075	20,387	20,672
Organics⁵	9,600	9,633	9,783	9,920
Subtotal Recycled	36,794	36,922	37,496	38,021
Recycling Rate	13%	13%	13%	13%
Total Waste Generated	278,977	279,947	284,300	288,281
Net Waste Requiring Disposal	242,183	243,025	246,804	250,260
Landfill Disposed Lbs/Capita/Day	7.8	7.8	7.8	7.8

¹ Source: 2010 US Census, and the projections provided by the Southern PA Commission (SPC)

² Tonnages recorded in County database, as reported by disposal sites in 2010 and 2011, and projected for 2012 - 2023

³ Includes recyclables from the residential curbside and drop-off programs, excluding ferrous, stainless steel and white goods. 2012-2023 tonnages expected to track with population using 2010 as the base year.

⁴ Includes curbside and drop-off programs, excluding ferrous, stainless steel, asphalt and white goods. 2012-2020 tonnages expected to track with population growth.

⁵ Includes organics from both residential and commercial sources.

Based on the above analysis, it is recommended that the County anticipate the need to landfill (or otherwise dispose of) between 240,000 and 250,000 tons of waste annually over the next 10 years. A more comprehensive breakdown on an annual basis is included in Appendix A.

The above discussion was completed with several assumptions, including:

- The recycling rate continues at roughly 13.5% of the total waste generated.
- The County population begins to increase at the rates projected by the Southern Pennsylvania Commission (SPC).
- No significant changes are initiated within the County associated with waste management (such as the creation of a Materials Recovery Facility (MRF) or an expanded organics processing facility).

3.2 OTHER WASTE STREAMS

Beyond the need for landfill (or other disposal) of between 240,000 and 250,000 tons of waste material annually over the next 10 year period, it is also recognized that there is a need for the disposal of material associated with other waste streams.

As discussed in Chapter 1, there is a need to dispose of small quantities of Construction and Demolition (C&D) Waste, Bio-Solids and Septage Waste, Infectious and Chemotherapeutic Waste, Asbestos and Residual Waste. It is anticipated that the total tonnage of these materials will continue at roughly the same tonnages as had been noted in 2011, despite the slight increase in projected population, although these waste streams do not amount to a substantial percentage of the total. (Note that, to be conservative, these tonnages were included in the totals included for landfilling in Section 3.1, above.)

It appears that the current methods being utilized to address these waste streams are adequate, and it is recommended that these practices continue in the future.

4. DESCRIPTION OF RECYCLABLE MATERIALS (per 25 pa. Code. § 272.226)

The recycling industry is estimated to generate \$23.4 Billion in economic activity in Pennsylvania. In 2009, the [Northeast Recycling Council](http://www.nerc.org/) (<http://www.nerc.org/>) performed a study that found recycling generates over 52,000 jobs in Pennsylvania, resulting in \$2.2 billion in payroll alone. Beaver County, along with many other Counties in Pennsylvania, is actively striving to enhance its recycling program and increase recycling tonnages within its borders. This Chapter describes the recycling activities taking place in Beaver County and the impact of recycling on the amount of municipal waste requiring disposal/processing capacity.

4.1 AMOUNTS OF MATERIAL RECYCLED

As discussed in Section 3.1, information regarding the total tonnages of material recycled in Beaver County was obtained from the PADEP ReTrac System for the years 2001 – 2011. This data was transferred to a spreadsheet to identify the specific sources of recyclable materials, as well as the types of materials that have been collected.

As shown on Table 4, recycled material was identified as being categorized as: Residential, Residential Household Hazardous Waste (HHW), Residential Organics, Commercial, and Commercial Organics.

Although HHW is listed under “recycling” in the ReTrac system, the materials collected are rarely “recycled” in the conventional sense, so was addressed herein as a Special Waste Stream, included in Chapter 3 since it composes a portion of the generated waste, but not discussed further in Chapter 4.

It is assumed that the material categorized on the ReTrac system as Residential and Commercial Organics represents material that was transferred to the Beaver County Yard Waste / Composting Facility, located in Brighton Township. This facility is currently operating under a Permit-By-Rule (PBR), although the County is in the process of seeking a permit for site expansion.

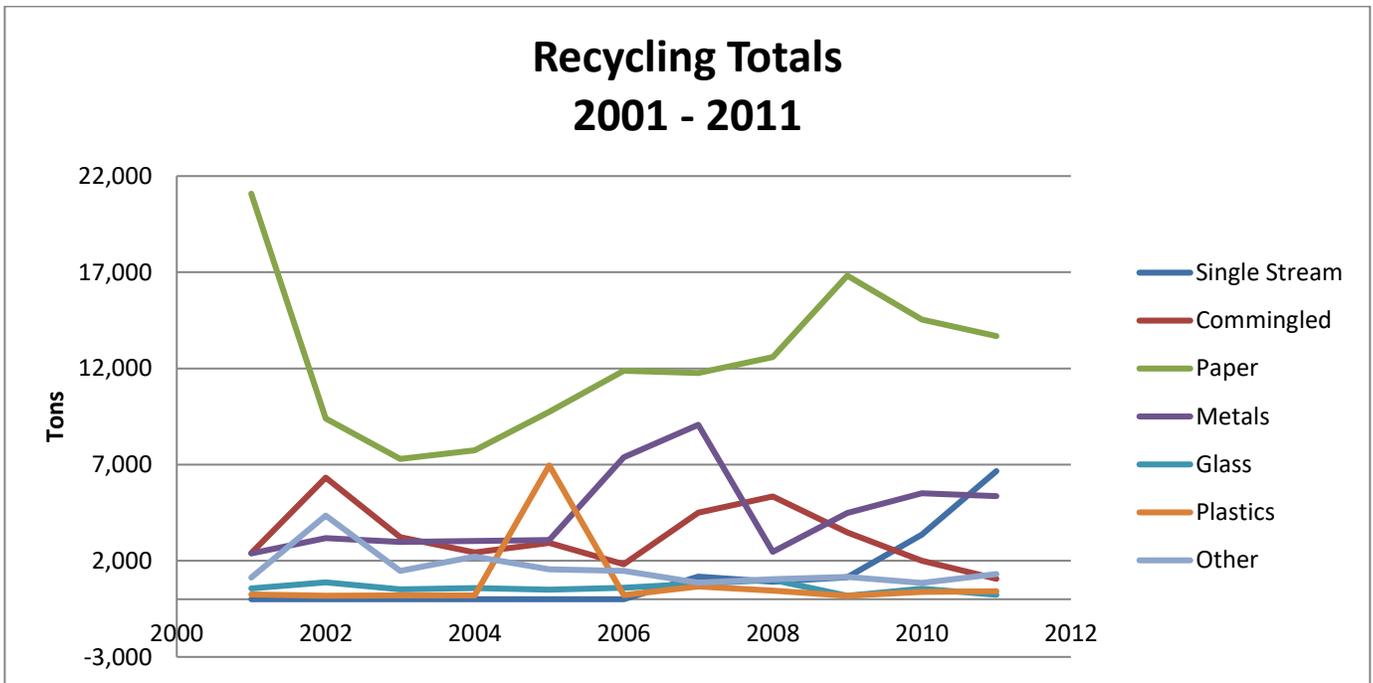
As discussed in Section 3.1, several tonnage values obtained from the ReTrac system have been noted as anomalies. For instance, in 2006, 2010 and 2011, the Residential Recycling tonnages showed a marked increase, primarily due to a substantial quantity of White Goods recycled. In 2005 the total recycling from Residences (excluding organics) amounted to 15,219 tons, whereas the White Goods recycling in 2006 alone was 26,896 tons. This resulted in a 250% increase in total recycling. The White Goods tonnages vary dramatically from year to year, and it is assumed that this represents a special collection or industrial effort involving materials brought into the County from elsewhere. With that in mind, White Goods (as well as Ferrous Metals, Mixed Metals and Stainless Steel, which show similar fluctuations) have been removed from the “recycling” totals discussed in the Chapter 4. (See Tables B.1-B.4 in Appendix B)

Similarly, an anomaly was noted with respect to Commercial Recycling tonnages. In 2004 the total Commercial Recycling amounted to 36,737.5 tons (excluding organics). In 2005, Stainless Steel recycling alone amounted to 198,755.6 tons, resulting in a 634% increase in total Commercial Recycling from one year to the next. In 2007, the Commercial Recycling total (excluding organics) jumped to 413,464.5 tons, mostly as the result of a spike in Ferrous Metals and Stainless Steel recycling (representing 92% of the total). With that in mind, Ferrous Metals, Stainless Steel, Mixed Metals, White Goods and Asphalt have been excluded from the “recycling” totals discussed elsewhere in Chapter 4.

Based on the above qualifications, the following table is a summary of the recycling trends (excluding organics) between 2001 and 2011, for both Residential and Commercial sources.

Table 8 – RECYCLING BY MATERIAL TYPE

MATERIALS	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	TOTAL
Single Stream	0	0	0	0	0	0	1,168	911	1,143	3,351	6,661	13,234
Commingled	2,396	6,321	3,223	2,427	2,920	1,817	4,496	5,343	3,480	2,007	1,062	35,492
Paper	21,084	9,397	7,293	7,733	9,737	11,875	11,762	12,595	16,818	14,540	13,673	136,507
Metals	2,380	3,169	2,981	3,020	3,083	7,376	9,068	2,471	4,475	5,509	5,362	48,894
Glass	559	881	515	585	503	591	806	1,004	178	544	225	6,391
Plastics	252	188	205	206	6,958	220	653	454	176	388	419	10,117
Other	1,118	4,350	1,470	2,210	1,552	1,466	853	1,034	1,156	848	1,309	17,365
TOTAL TONNAGE	27,788	24,305	15,687	16,181	24,751	23,345	28,807	23,812	27,426	27,187	28,710	268,000



Note that the above reflects the recycled commodities typically accounted for across the Commonwealth, although it does not accurately reflect actual tonnage of those materials discussed above, which have been recycled by commercial entities within the County. A more exact breakdown of the individual components can be found in Appendix B, Tables B.1, B.2 and B.3.

4.2 MUNICIPAL RECYCLING PROGRAMS

Pennsylvania Act 101 mandates that larger communities in the Commonwealth establish curbside recycling programs. Others are mandated via local ordinance, while still other communities have voluntary programs.

Table 9 below provides an overview of the recycling programs for the 53 municipalities that comprise Beaver County, including if the municipality has instituted a leaf waste collection program or contains a drop-off site within their respective geographic borders. (Note that Ellwood City Borough has a small portion of its geographic boundaries within Beaver County. However, for purposes of municipal waste management planning in Pennsylvania, Ellwood City Borough reports to Lawrence County and thus is not included in the Beaver County Plan.)

The information gathered in Table 9 was provided by the County via Calendar Year 2010 Annual Recycling Reports, although some information was also obtained via a municipal web-site search. It should be noted that a number of municipalities, although required by law, either did not provide the 2010 Recycling Report to the County, or where provided, did not fill in their report in its entirety. As such, it is feasible that some municipalities that did not respond may have ordinance-mandated or voluntary curbside programs, leaf waste collection programs, and drop-off sites. If so, this information was not available to the County or to the Consultant. This may be attributed to the high number of communities that have either contract collection for recyclables, or subscription collection, and whereby the private sector is not reporting the collection tonnages back to the community. As such, it should be noted that the tonnages reported by Re-TRAC for the curbside collection programs might under-represent the true amount of recyclables collected within the County.

The remainder of Section 4.2 provides a more descriptive overview of the county's current recycling efforts (as reported to the County and where information exists) as they relate to the collection of curbside materials from residential and commercial establishments as well as from municipalities that have implemented drop-off programs for their customers.

Table 9 – BEAVER COUNTY MUNICIPAL CURBSIDE/DROP-OFF RECYCLING PROGRAMS AS OF 2010

MUNICIPALITY NAME	PROGRAM TYPE	CURBSIDE PROGRAM ⁶	LEAF WASTE PROGRAM	DROP-OFF PROGRAM	# OF DROP OFF SITES ⁷
Aliquippa	Mandatory Curbside	Yes	Yes	Yes	5
Ambridge	Mandatory Curbside	Yes	Yes	Yes	6
Baden	Mandatory Curbside	Yes	Yes	Yes	6
Beaver	Curbside by Ordinance	Yes	Yes	Yes	1
Beaver Falls	Mandatory Curbside	Yes	Yes	Yes	6
Big Beaver	Unknown				1
Brighton	Mandatory Curbside	Yes	Yes	Yes	3
Center	Mandatory Curbside	Yes	Yes	Yes	2
Chippewa	Mandatory Curbside	Yes	Yes	Yes	1
Conway	Curbside by Ordinance	Yes	Yes	Yes	2

⁶ Curbside collections conducted "by Ordinance" are for those municipalities that are not mandated but choose to provide curbside collection and require residents to recycle. "Voluntary Curbside" is provided by non-mandated municipalities that offer collections but have not issued an ordinance.

⁷ "# of Drop-Off Sites" represents the number of known bins that are provided within the municipality, either by the County, the municipality, or by private companies not affiliated directly with the municipality. See the County recycling brochure for details. (Appendix B)

MUNICIPALITY NAME	PROGRAM TYPE	CURBSIDE PROGRAM ⁶	LEAF WASTE PROGRAM	DROP-OFF PROGRAM	# OF DROP OFF SITES ⁷
Darlington (Borough)	Unknown				0
Darlington (Township)	Unknown				2
Daugherty	No Curbside Program	No	Yes	Yes	2
East Rochester	Voluntary Curbside	Yes	No	No	Yes
Eastvale	Unknown				1
Economy	Mandatory Curbside	Yes	Yes	Yes	7
Fallston	Unknown				1
Frankfort Springs	Unknown				0
Franklin	Voluntary Curbside	Yes	No	Yes	1
Georgetown	Unknown				0
Glasgow	Unknown				0
Greene	No Curbside Program	No	No	Yes	3
Hanover	No Curbside Program	No	No	Yes	1
Harmony	Unknown				2
Homewood	Unknown				1
Hookstown	Unknown				1
Hopewell	Mandatory Curbside	Yes	Yes	Yes	1
Independence	No Curbside Program	No	No	Yes	1
Industry	No Curbside Program	No	Yes	Yes	4
Koppel	Unknown				1
Marion	No Curbside Program	No	No	Yes	1
Monaca	Mandatory Curbside	Yes	Yes	Yes	2
New Brighton	Mandatory Curbside	Yes	Yes	No	3
New Galilee	Unknown				0
New Sewickley	No Curbside Program	No	No	Yes	1
North Sewickley	Unknown				3
Ohioville	No Curbside Program	No	No	Yes	5
Patterson	Curbside by Ordinance	Yes	Yes	No	1
Patterson Heights	Curbside by Ordinance	Yes	Yes	No	N/A
Potter	Unknown				4
Pulaski	Curbside by Ordinance	No	Yes	No	1
Raccoon	No Curbside Program	No	Yes	Yes	1
Rochester (Borough)	Unknown				3
Rochester Township	Curbside by Ordinance	Yes	Yes	Yes	2

MUNICIPALITY NAME	PROGRAM TYPE	CURBSIDE PROGRAM ⁶	LEAF WASTE PROGRAM	DROP-OFF PROGRAM	# OF DROP OFF SITES ⁷
Shippingport	Unknown				1
South Beaver	Unknown				
South Heights	Voluntary Curbside	Yes	No	No	N/A
Vanport	Voluntary Curbside	Yes	Yes	Yes	1
West Mayfield	Unknown				1
White	Curbside by Ordinance	Yes	Yes	Yes	1

4.2.1 Act 101 Mandated Recycling Programs

According to Act 101, municipalities with populations of at least 10,000 were required to implement curbside recycling programs by September 26, 1990. Municipalities with populations between 5,000 and 10,000 and more than 300 persons per square mile were required to implement curbside programs by September 26, 1991. Grants are available to all municipalities to establish recycling programs.

Municipalities which fall within these specific demographic criteria are referred to as “mandated municipalities.” According to data provided by Beaver County, the following 12 municipalities shown in Table 10 are Act 101 mandated curbside programs. It should be noted that a municipality has two (2) years from the time Census data becomes official to implement a recycling program. As the 2010 Census data became official in April 2011, any new mandated municipalities had until April 2013 to implement a recycling program.

Table 10 – ACT 101 MANDATED RECYCLING PROGRAMS IN BEAVER COUNTY⁸

MUNICIPALITY	2010 POPULATION ⁹	RESIDENTIAL CURBSIDE MATERIALS COLLECTED	RESIDENTIAL FREQUENCY OF COLLECTION	DROP-OFF MATERIALS COLLECTED
Aliquippa City	9,438	Commingled (glass, plastics, aluminum)	Two times per month	Mixed paper
Ambridge Borough	7,050	Tin and metal cans; aluminum cans and foil; glass; plastics #1 &2; newspaper, office paper, and magazines	Every other week	Mixed paper and yard waste
Beaver Falls	8,987	Commingled, #1 and 2 plastics, newspaper	Two times per month	Mixed paper
Brighton Township	8,227	Commingled, mixed paper	Every other week	Mixed paper, cardboard, yard waste
Center Township	11,795	Single stream (metals, glass, paper, plastic, cardboard)	Two times per month	Mixed paper, office paper and yard waste
Chippewa Township	7,620	Newsprint; aluminum cans; steel and bi-metallic cans	Once per week	Yard and wood waste

⁸ Source: CY 2010 Annual Recycling Report and website research where applicable.

⁹ Source: Pennsylvania State Data Center and website research of 2010 census where applicable.

Economy Borough	8,970	Commingled (#1 and 2 plastics; clear, green and amber glass; steel and aluminum cans) and yard waste	Two times per month	Yard waste and mixed paper
Hopewell Township	12,593	Single stream (metals; glass; plastics; and cardboard)	Two times per month	Yard waste
Monaca Borough	5,737	Commingled (Plastic bottles 1-7; clear, green, and brown glass; steel cans; aluminum cans) and newspapers and magazines	Once per week	Mixed paper and leaves
New Brighton Borough	6,025	Single stream (cardboard; newsprint; office paper) and yard and leaf waste	Two times per month	N/A

4.2.2 Municipalities with Ordinance Mandated or Voluntary Curbside Recycling Programs

A large number of municipalities in Pennsylvania that are not mandated to recycle by Act 101 have instead either passed mandatory local ordinances requiring recycling collection, or have instituted some type of voluntary curbside collection program. Table 11 below provides a detailed overview of the 13 municipalities within Beaver County that have chosen to require curbside collection of recyclable materials or have instituted a voluntary collection program.

Table 11 – RECYCLING PROGRAMS IN BEAVER COUNTY BY ORDINANCE OR VOLUNTARY¹⁰

MUNICIPALITY	2010 POPULATION¹¹	RESIDENTIAL CURBSIDE MATERIALS COLLECTED	RESIDENTIAL FREQUENCY OF COLLECTION	DROP-OFF MATERIALS COLLECTED
Baden Borough	4,135	Cardboard; mixed paper; newspaper; aluminum cans; steel and bi-metallic cans	Every other week	Mixed paper
Beaver Borough	4,531	Commingled (glass, plastics, aluminum)	Once per month	Yard waste
Bridgewater Borough	704	Commingled, mixed paper, newsprint, office grade paper	N/A	Cardboard; mixed paper; yard waste
Conway Borough	2,176	Newspaper; cardboard; mixed paper; mixed glass; aluminum cans; bi-metal cans; Plastics #1 and 2	Once per month	Newsprint
East Rochester Borough	567	Glass; aluminum cans; mixed cans	Once per week	Unknown
Franklin Township	4,052	Cardboard; mixed paper; newsprint; aluminum cans; steel and bi-metal cans	Twice per month	Unknown
Freedom Borough	1,569	Aluminum cans; Steel and Bi-metallic cans	Once per week	Unknown
Midland Borough	2,635	Cardboard; mixed paper; newsprint; aluminum cans; steel and bi-metallic cans	Once per week	Newsprint

¹⁰ Source: CY 2010 Annual Recycling Report and website research where applicable.

¹¹ Source: Pennsylvania State Data Center and website research of 2010 census where applicable.

Patterson Heights Borough	636	Plastic; paper; glass; metals	Twice per month	Unknown
MUNICIPALITY	2010 POPULATION¹²	RESIDENTIAL CURBSIDE MATERIALS COLLECTED	RESIDENTIAL FREQUENCY OF COLLECTION	DROP-OFF MATERIALS COLLECTED
Patterson Township	3,029	Commingled; Cardboard; mixed paper; newsprint; aluminum cans; steel and bi-metallic cans	Every two weeks	Unknown
Pulaski Township	1,500	Leaves only	Once per week	N/A
Rochester (Township)	2,802	Commingled; Cardboard; mixed paper; newsprint; aluminum cans; steel and bi-metallic cans	N/A	Mixed paper
White Township	1,394	Single Stream; Glass; plastic; aluminum cans; newspaper; magazines	Twice per month	Mixed paper; magazines
Vanport Township	1,321	Varies by individual hauler	Once per week	Newspaper; magazines; catalogs; office paper; junk mail; yardwaste

4.2.3 Municipalities with No Curbside Recycling Programs

As presented in this chapter, 21 of the 53 municipalities in Beaver County are mandated - either by Act 101 - or by local ordinance to provide a curbside recycling collection program. Another four communities have voluntary curbside collection services. Nine communities reported having no curbside collection program. These municipalities include Daugherty, Greene, Hanover, Independence, Industry, Marion, New Sewickley, Ohioville and Raccoon.

The remaining 19 municipalities did not submit a Calendar Year 2010 Annual Recycling Report, nor are they listed within Re-TRAC as providing any tonnage into the recycling stream. It is assumed that residents within these communities that wish to recycle utilize either the private sector, or deliver their materials to the Beaver County Recycling Center as described below.

4.2.4 Municipal-Wide Drop-Off Recycling Programs

In Beaver County, the collection and processing of recyclables is performed by private haulers. Commercial, municipal and institutional establishments within a mandated municipality are required to recycle aluminum, high-grade office paper and corrugated paper in addition to other materials chosen by the municipality.

As shown in Table 10, numerous municipalities feature drop-off facilities which accept a wide range of recyclable commodities. Many municipalities that are not mandated to recycle have drop-off centers (or sites), with other municipalities supplementing existing curbside collection programs with one or more drop-off sites.

According to the 2010 Annual Recycling Report, in Beaver County, there are currently 59 drop-off sites located within 25 municipalities. However, according to the 2010 Re-TRAC data, only 17 municipalities reported any drop-off tonnage. This is most likely due to the fact that many of the drop-off sites are operated by private companies, which collect and process their material at their facilities. A goal of the County Department of Solid Waste Management is to collect data associated with these drop-off sites, and to

¹² Source: Pennsylvania State Data Center and website research of 2010 census where applicable.

encourage the remaining municipalities to develop and operate one or more drop-off centers. Operating additional drop-off centers will in the long run help the County meet and exceed the state required 35 percent recycling goal.

According to the Re-TRAC report, in 2010, the residential recycling drop-off program collected 54,783 tons of recyclables, with the vast majority (or 52,404 tons) being reported as “white goods.” As reported by the County, these white goods include appliances and other items dropped off by the residential sector at PSC Metals (48,082 tons) and at Skips Recycling (4,321 tons).

In addition to the 54,783 tons of residential recyclables collected in the drop-off program, an additional 2,165 tons of residential organic material was collected in the drop-off program for a grand total of 56,948 tons reported diverted by drop-off centers.

4.2.5 Commercial Recycling Programs

Businesses which wish to start up a recycling program can contact the Beaver County Waste Management Department at (724) 770-2066, or their local municipality for assistance.

In 2010, it was reported by Re-TRAC that commercial businesses within Beaver County recycled 342,806 tons of material under curbside collection programs, and 38,440 tons of material at various drop-off sites. In addition, commercial facilities recycled roughly 3,500 tons of organic materials at curbside collections. This 2010 commercial recycling total of 384,749 tons of recycled material included 36,000 tons of asphalt; 107,000 tons of ferrous metals; and 180,000 tons of stainless steel. As discussed in Section 4.1, this tonnage of recycled material represents the significant presence of multiple recycling facilities in the County, which focus on in- and out-of-county waste materials, making the recycling statistics somewhat misleading.

4.3 BEAVER COUNTY RECYCLING PROGRAMS

In Beaver County, each municipality's recycling program (including the operation of drop-off sites) differs slightly, and residents and business owners may contact the municipal office for additional details or to request educational materials.

For those municipalities that do not have curbside or drop-off programs within their borders, Beaver County operates a Recycling Center (center) in Brighton Township. The Recycling Center is currently accepting as many recyclable categories as is feasible, given the Center’s geographical location and physical limitations. However, the County will continue to pursue new and progressive programs that promote sustainable social, economic and environmental growth.

Residents that reside within the County may drop-off select recyclable commodities at the center on Tuesdays and Thursdays weekly, or the 1st and 3rd Saturday of each month. The following materials are accepted:

• Newspaper	• Used ink cartridges
• Mixed Paper	• Scrap metal
• Metals (aluminum and bi-metal containers)	• Motor Oil and antifreeze (with an applied fee)
• Mixed glass	• Yard Waste
• Plastic bottles (#1 and #2 only)	• Used auto and rechargeable batteries
• Corrugated Cardboard	• Electronics Waste

Residents may also visit the County’s Waste Management website to view the recycling instructions at www.beavercountyrecycling.com/recycling_ctr.html.

In 2010, the residential recycling and organics curbside program diverted 8,741 tons of material combined. At the same time, the residential recycling and organics drop-off program diverted 56,949 tons of material from landfill, for a sub-total of 65,690 tons from the residential sector. In the same year, it was reported that the commercial curbside recycling program (recyclables and organics) diverted 346,309 tons, combined with 38,440 tons from commercial drop-off, for a total of 384,749 tons from commercial sources. Combined for both sectors, it was reported that 450,439 tons of material (excluding HHW and solid waste) from the commercial and residential sectors were recycled in 2010.

As noted in Section 4.1; only items that are generally found in a curbside or drop off program as defined by Act 101; or items with weights that could properly be explained and accounted for, were considered when developing the recycling stream and calculating the County's recycling rate found in Table 10. This excluded items such as asphalt (35,500 tons) and stainless steel (180,000 tons) as reported by the commercial sector. Including these weights would have erroneously pushed the County recycling rate to over 75 percent.

A summary of the quantities and types of materials diverted by both the residential and commercial curbside and county-wide drop-off collection sites between 2001 and 2011 (excluding the commercial recycling items discussed above) is shown in Table B.3, in Appendix B.

4.3.1 Other County Recycling Services and Programs

In addition to the County's curbside and drop-off collection programs for recyclables and organic waste, the county oversees additional recycling services and programs. A brief description of these programs is provided below.

- **Paper Program:** The Paper (formerly described as the "Animal Bedding") Program that is operated by the County collects newspaper donated by residents and placed in drop-off sites located in Green Township, Economy Borough, New Sewickley Township and the Beaver County Recycling Center. All newspaper that is collected is recycled into new paper products or animal bedding for county farmers. Farmers, kennel owners, and other relevant parties are welcome to pick up the recycled newspaper free of charge to use as bedding for the animals. Residents may visit the county website to learn more about material preparation guidelines, information on how to obtain paper if you are a farmer or other paper user, and the operating hours of the drop-off sites, as well as additional information from private recycling facilities that accept miscellaneous paper products for recycling.
- **Backyard Compost Program:** The County has developed and implemented a backyard composting educational program for county residents. The program includes a comprehensive display of how composting works, and an annual composting workshop. This program is run at the County Recycling Center at Brady's Run Park.
- **Municipal /Commercial Compost and Land Application Program:** Beaver County operates a Composting Land Application Program for municipal and commercial level participants. The program provides for beneficial use of organic yard waste through a user fee based program, which consists of a 15-acre county compost site and numerous processing and land application sites located throughout the county. Residents and business can contact the Waste Management office at (724) 770-2066 for a program booklet or to request further detailed information.
- **Waste Oil and Anti-Freeze Recycling:** Used motor oil and used anti-freeze are collected at the county's Recycling Center during normal operating hours. Used motor oil from residential sources is collected free of charge with a maximum limit per day of 5-gallons per household. Used antifreeze from residential sources is accepted for a nominal fee at the Beaver County Recycling Center. There is no limit to the amount of antifreeze that can be brought in.
- **Act 101/Section 902 Recycling Grant Application Assistance:** The Beaver County Waste Management Department is available to assist municipalities with the submittal of Section 902

Recycling Grants. These grants provide 90 percent reimbursement for recycling program equipment and developmental activities.

- **Evaluating Waste Collection Programs:** The Beaver County Waste Management Department has staff members that are available to tour various municipal facilities and business enterprises. Based on a visual inspection and meetings with key personnel, the county would then make recommendations to the waste disposal and/or recycling program.
- **Assist Municipalities with Recycling Annual Report:** Beaver County Waste Management staff members are available to assist all 54 municipalities as they develop their annual recycling reports. Municipalities that need assistance may contact Holly Nicely at (724) 770-2066.
- **Electronics Recycling Program:** The Beaver County electronics recycling program accepts computers, monitors, T.V.'s, VCR's, printers, and other electronics at the Beaver County Recycling Center. Residents and commercial entities are encouraged to call (724) 770-2064 for up-to-date information.

4.3.2 Recycling Education Programs

The Beaver County Department of Waste Management provides free recycling educational programs, presentations and materials to municipalities, special interest groups, commercial and institutional establishments and local school districts throughout the County. This includes the creation, update and distribution of the Beaver County Recycling Resource Directory. The directory includes a list of recyclers by material type (e.g. glass, newsprint, plastic containers, etc.); a list of recyclers who accept white goods and/or perform freon removal; a list of regional landfills included in the County Plan; and a list of Additional Resources. A copy of the latest Directory is included in Appendix B.

In addition to the Directory, the Department provides access to a 2009 report entitled “Recycling Economic Information Study Update: Delaware, Maine, Massachusetts, New York and Pennsylvania” at the website location shown below. This report was intended to provide state and local officials with an updated ability to communicate the economic value of the recycling industry in their states as well as compare results for 2007 (Study Update) against findings in the original Recycling Economic Information (REI) report published in 2000. http://www.nerc.org/documents/recycling_economic_information_study_update_2009.pdf

The County also provides a website at the following location which discusses specific County and private recycling opportunities for residents and businesses:

http://www.beavercountyrecycling.com/programs_services.html

4.3.3 Leaf and Yard Waste Collection

Leaf and yard debris collection in Beaver County is largely limited to programs initiated by the mandated municipalities to fulfill their obligation to collect yard debris separate from municipal waste. For mandated municipalities, curbside collections of leaf and yard debris are completed annually in the spring and fall, and the County drop-off site is available throughout the year.

In 1998, Beaver County implemented a yard waste composting and land application program. At the time of the 2004 Plan Update, the County had successfully removed over 6,000 tons of yard waste from the disposal stream through the operation of this program. Since the beginning of 2004, the site has processed nearly 51,000 tons of wood waste, and yard/leaf waste, averaging over 6,000 tons per year, marking this as one of the most successful recycling programs in the County.

It should be noted that the Beaver County Compost Facility (Facility), is open to all municipalities and businesses in Beaver County. Residential generators of yard waste are asked to deliver organic material to the County Recycling Center at Bradys Run Park, where it is consolidated and delivered to the Compost Site.

Many County residents (especially those with larger woody material not collected/ accepted by the municipal mandated curbside programs) utilize the Center’s services for yard waste drop-off, as well as to purchase compost prepared at the County Facility.

There are currently 22 municipalities in Beaver County that have implemented either curbside or drop-off collection of yard waste (up from 19 in 2004).

The County also encourages residents to compost at home. It publishes a flyer on home composting, as well as a larger manual designed to help residents learn to compost at home and to troubleshoot problems with composting at home, and coordinates educational sessions for backyard composters through the local Penn State extension.

4.4 PRIVATE RECYCLING ENTITIES SERVICING BEAVER COUNTY

There are several privately-owned and operated companies that offer recycling services to the businesses and residents of Beaver County, including the following.

- Aliquippa Recycling
12 Woodlawn Rd.
Aliquippa PA 15001
724-378-3734
- Allegheny Raw Materials
136 Sara Rd., Ellwood City PA 16117
724-752-1161
- Brunner Recycling Center
Duss Avenue
Ambridge PA 15003
724-266-2268
- Metalico Recycling (formerly Skip’s)
2003 Crows Run Rd.
Conway, PA 15027
724-770-9110
- PSC Metals
PO Box N
Koppel PA 16163
724-846-9400
- Valley Waste Service
261 Wallace Run Rd.
Beaver Falls, PA 15001
724-843-9373
- Waste Management
2097 Duss Ave.
Ambridge PA 15003
724-385-9294

A comprehensive list of the companies and the services that they provide is included in the *Beaver County Recycling Resource Directory* (see Appendix B).

In addition, the Pennsylvania facilities that have been approved for disposal of County waste are also required to offer recycling drop-off stations at each site. (See the list of current facilities in Table 3, and the facilities designated for waste disposal between 2015 and 2024 in Section 5.9). It is not currently known if the approved out-of-state disposal facilities offer similar recycling drop-off stations.

Municipal Waste Transfer Stations that are permitted in the Commonwealth are also required to provide facilities for recycling drop-off. There are currently 3 permitted transfer stations in Beaver County, as discussed in Section 5.10.

4.5 COSTS ASSOCIATED WITH RECYCLING

Detailed costs for collection and processing of recyclable materials, as well as potential revenues from recycled commodities are not readily available. However, costs and potential revenues have been estimated as part of the effort to establish Recycling Sustainability Needs for the County. These estimates are discussed in

more detail in Section 5.11, and a summary Table discussing “sustainability needs” is defined (description and estimated annual cost) as part of the SOI in Appendix D.

An understanding of recycling cost avoidance benefits is critical to the justification of increased recycling in a County. The benefits are most clearly noted by commercial businesses and residents if the hauler utilizes a fee per bag or can (as opposed to a cost/month). However, using a typical tipping fee at local landfills of roughly between \$35 and \$45/ton, the avoided cost could be estimated. Note that this cost only includes the actual cost at the disposal facility, but it is assumed that the costs associated with collection and transportation would be roughly the same regardless of whether the material is to be recycled or disposed. Based on the tonnages documented in Table 8 for fiscal year 2010 (27,187 tons), an avoided disposal cost range of between \$951,545 and \$1,087,480 could be shown annually. If invested in expanded recycling services, this cost avoidance could lead to even greater savings.

Minimal revenue is generated at special collections in order to fund other programs where no fees are collected. New recycling programs are structured as partnerships to ensure that the hauler generates sufficient revenue to continue the program.

Estimated costs associated with operation of the Beaver County Yard Waste / Composting Facility, located in Brighton Township are included in the Section 5.11 discussion, and summarized in the “sustainability needs” table included in Appendix D. Note that Mandated Municipalities are required to collect and process yard waste on a regular basis, and the County composting facility provides the means for this processing. As such, although the facility has a considerable cost, elimination of the facility would result in substantial increases in direct costs to the municipalities.

4.6 FUTURE RECYCLING GOALS AND EFFORTS

As discussed in Section 3.1, and calculated in Table 7, Beaver County’s recycling rate for 2010 is estimated to be 13.4%, based on the reported disposal and recycling quantities from Pennsylvania DEP disposal data and Re-TRAC reports. However, this rate is based on the exclusion of several commercial recycling streams which appeared to be associated with some industrial operations that most likely processed in- and out-of-county waste materials, which otherwise would have resulted in recycling rates of greater than 65%.

Given sufficient funding to continue and expand programs, the County seems to have sufficient opportunity for additional recycling. However, to maintain the current diversion rate and capture the remaining available fraction of recyclable materials, the County will need to continue to encourage municipal programs and encourage additional efforts in capturing and composting the organic fraction of the waste stream, specifically the yard waste component. Also the County should maintain educational efforts and aggressively pursue recycling figures from the commercial/industrial sectors that often go unreported.

Areas where additional potential recycling opportunities exist include:

- Increasing the type of materials collected at the curb – especially plastics.
- Increasing the amount of material composted, especially yard waste collected curbside by municipalities.
- Expanding drop-off collection systems in municipalities currently using the system, and adding other municipalities into the program.
- Implementing some type of food diversion program.
- Trying to increase recycling at small businesses and institutions that have been difficult to reach thus far.
- Providing additional technical support and recycling education to school administrators to encourage them to implement recycling programs at educational institutions located in the County.

It should be noted that several municipalities currently utilize drop-off bins supplied by the County for the collection of cardboard. Given the age of the bins, several of these municipalities have submitted requests for grant funding to obtain new or supplemental cardboard collection bins. Expansion of these services is highly recommended throughout the County.

Communities and counties both nationally and throughout Pennsylvania have diversion systems that have achieved and exceeded the Pennsylvania State goal of 35 percent per year. This has been achieved by requiring municipal curbside collection programs for all Act 101 materials, plus additional materials, such as: all plastic containers, aluminum foil, paperboard, mixed residential paper and others. Also, these areas generally have a greater commercial sector and institutional base that are often required to recycle by law. Additionally, these areas are typically more aggressive in diverting organics from the waste stream, beyond the typical leaves and yard debris to include restaurant and grocery store organics diversion and processing. Finally, areas that are experiencing high levels of development have taken advantage of recovering and processing C&D waste materials.

Commonly, these communities and counties with higher diversion rates are more suburban or urban in nature with denser population centers and more commercial enterprises. For instance Centre County, Pennsylvania has long ago succeeded in achieving and exceeding the State 35 percent goal, however the majority of the population base lives in and around State College, which includes the Pennsylvania State University, a State Correctional Institution and numerous industries. Programs have been established both publically and privately to maximize diversion of waste from disposal as it has proved to be economically justifiable.

Given that Beaver County is below the 35 percent goal, achieving a small increase in diversion from one of the various waste streams could increase the overall diversion rate.

Beaver County will continue to pursue cost-effective programs to increase the diversion rate and offer expanded services to residents and businesses throughout the county in its quest to reach the Pennsylvania recycling goal of 35%.

4.7 CHANGES TO ACT 101 AND IMPACT TO THE COUNTY

Act 101 (P.L.556), originally enacted on July 28, 1988, was amended by Act 175 (House Bill No. 2190, session of 2002), which extended the sunset date for Act 101 fees to January 1, 2009, and required that the PADEP develop a plan to assist municipalities in making recycling programs financially self-sufficient. The Act was amended again via the implementation of Act 140 (House Bill No. 1902, session of 2005, as Amended on 9/27/06). (Additional amendments were being considered in the PA House and Senate, but were not available in final form at the time of publication of this Plan Update.) This amendment created a series of changes. Notable among the other changes, were specific changes to Section 2, with respect to Section 904 (a) and (b), regarding performance grants for municipal recycling programs. Among other requirements, the amendment expanded the level of documentation required to be included with the applicant's recycling and composting grant request submission, and this affected funding received by municipalities beginning in 2007. In addition, Act 101 was reauthorized in May of 2010, and the sunset date for the PADEP recycling fees was extended until 2020.

Under Section 2(d)(4), the amendment noted that all mandated municipalities and any non-mandated municipality receiving more than \$10,000 in funding must demonstrate to the Department's satisfaction that they "...have met the following performance requirements:

- requires, through ordinance, that all residents have waste and recycling service
- has an implemented residential recycling program and facilitates a commercial recycling program or participates in a similar county or multi-municipal program
- has a residential and business recycling education program

- has a program of enforcement that periodically monitors participation, receives complaints and issues warnings for required participants and provides fines, penalties, or both, in its recycling ordinance
- has provisions, participates in a county or multi-municipal program or facilitates a private sector program for the recycling of special materials
- sponsors a program, facilitates a program or supports an organization to address illegal dumping and/or littering problems
- has a person or entity designated as recycling coordinator who is responsible for recycling data collection and reporting recycling program performance in the municipality or municipalities."

Section 2(d)(5) goes on to say that "If the requirements of paragraph (4) are not satisfied by the municipality, then the grant funds awarded under this section shall be expended by the municipality only to satisfy the requirements of paragraph (4).", and Section 2(e) says that "The department may require budget documents or other expenditure records and may deny funding through this section if an applicant cannot demonstrate that funds have been expended on eligible activities."

There has been a notable decrease in the amount of funding awarded through Section 904 to mandated municipalities throughout the Commonwealth in the last 2 years. It is felt that this reduction in funding awards may be, in part, the result of a lack of municipal personnel to provide the services and prepare the documentation necessary to support the requirements of the Act. With that in mind, it is recommended that the County evaluate the role of their solid waste and recycling personnel, and consider expansion of their responsibilities to assist mandated (and non-mandated) municipalities with grant applications and Act 140 compliance issues.

Specifically, it appears that the principal issues associated with non-compliance have revolved around the following, each of which may arguably be best addressed with assistance from County recycling and/or solid waste staff:

- A lack of commercial recycling and periodic public education
- A lack of commercial recycling ordinances
- A lack of an enforcement program

5. SELECTION AND JUSTIFICATION OF MUNICIPAL WASTE MANAGEMENT PROGRAM (per 25 Pa. Code. § 272.227)



The purpose of this chapter is to describe the process used to select and recommend components to the overall waste management system for Beaver County, and to provide justification for the selections and recommendations. The County must ensure that the recommended system(s) provides the required capacity needed to properly process/dispose of all municipal waste generated within its boundaries over the next 10 years. This chapter examines processing and disposal alternatives for municipal waste for Beaver County; determines the compatibility of each alternative with the existing components of the waste and recycling systems; and assesses the feasibility of using those alternatives to help meet the future needs of the County.

5.1 BACKGROUND

In 2010, landfills accepted a total of 242,183 tons of material generated in Beaver County. In addition, the PADEP ReTrac system documented that a total of 451,154 tons of waste material linked to Beaver County was recycled (from both residential and commercial sources, and including recycled materials, composted organics and HHW collections). The sum of this documentation shows that a total of 693,337 tons of material was either disposed or processed in 2010, and that this material was linked directly to Beaver County.

As discussed in Sections 3.1 and 4.1, several tonnage values obtained from the ReTrac system have been noted as anomalies, and it is believed that these are associated with recycling efforts conducted by industrial facilities in Beaver County, that most likely import materials from out-of-county for processing and redistribution. This includes materials like White Goods, Stainless Steel, Ferrous Metals, Mixed Metals and Asphalt, all of which have been recycled in Beaver County in very large tonnages over the past 10 years. Although these industrial processing facilities are very good for the County and are making a positive impact to the environment, the data presents some confusion when evaluating the data, since inclusion of those items results in an overall Recycling Rate of nearly 65%. With that in mind, in Sections 3.1 and 4.1 the Plan discusses recycling tonnages which exclude these waste stream categories.

As discussed in Section 2.1, between 2001 and 2011, there were nine disposal facilities that accepted municipal waste generated within Beaver County, 3 of which were located outside of the Commonwealth (2 in Ohio and 1 in West Virginia). One of the remaining 6 landfills is located in Beaver County.

Currently, as discussed in Section 1.8, residents and businesses use the waste hauler that is designated by each municipality (see Table 2), or arrange to have their waste collected privately through an individual subscription. For both scenarios, the haulers are required to dispose of the waste they collect at a landfill or transfer station of their choice, as long as the ultimate waste disposal site is designated in the County's Plan, from which the waste was generated.

Chapter 4 examined options for collecting and processing recyclable materials and organic wastes. Based on the recommended County recycling strategy, the quantity of waste expected to be diverted from disposal due to recycling and composting was estimated and deducted from gross waste generation estimates. Table 7 in Section 3.1 depicts estimated net (after recycling) waste quantities for the Counties. This data reveals that by 2023, approximately 250,260 tons (about 960 tons per day, on a 5 days per week basis) of solid waste (including all 8 waste streams discussed in Section 1.3) will require disposal from the County.

Section 5.4 of this chapter describes the current marketplace conditions of the region for MSW management. Section 5.5 provides a summary assessment of existing waste and recycling management facilities in the County. Section 5.6 describes the technologies that can be employed to process and/or dispose of this waste.

Section 5.7 presents recommendations for waste collection, transportation and processing/disposal strategies for the County. This section includes discussions on waste collection, waste reduction and recycling, transportation, disposal, construction and demolition waste, special waste handling and other related topics.

Marcellus Shale



A relatively new industry has exploded in the northern tier and western portion of Pennsylvania, which has the potential to impact waste disposal capacity in this County. The Marcellus Shale Play is a geologic formation that is a source of natural gas located in deep (1-2 miles deep) shale deposits. It is now being actively developed by scores of gas industries, thanks to recent drilling technology advances that make this gas development process technically feasible. These deep mine drilling operations generate drill cuttings and other residuals that currently require disposal in a proper landfill. The operations also require the handling of millions of gallons of chemically-treated fracturing, or “frac”, water at each drill site. The subsequent handling of drill residuals (and in some cases, wastewater from the operations) are typically classified as residual waste. These wastes may impact the available capacity of municipal waste landfills that service the County, should those residual wastes displace landfill capacity that is needed for municipal waste disposal, although the specific impacts are difficult to predict.

As the Marcellus Shale drilling industry is still in its infancy, it is expected to grow several-fold over the next five years, and will be in operation for decades. The potential impact of this industry’s residuals on available municipal waste disposal capacity in this County cannot be ignored in this plan. Contracts for long-term disposal capacity of municipal waste generated in the County need to confirm that municipal waste disposal capacity is “set aside” for the County’s use, and will not be negatively impacted by Marcellus Shale residuals disposal needs. This fact underscores the need for the County to secure long-term MSW disposal capacity as part of this planning process.

Open (Illegal) Dumping Considerations

Issues and Causes: Like most counties in Pennsylvania, illegal dumping is prevalent in rural areas of Beaver County. While most would view illegal dumps as eyesores, they also create significant concerns for public health and safety, property values, and the general quality of life. When they are ignored, these sites often become chronic dumping areas and pollute the soil, surface water, and groundwater. Preventing illegal dumping will require the counties to address factors that contribute to this problem. Cleaning up existing dumps will require cooperation from residents, businesses, haulers, and disposal facilities in the area.



Pennsylvania may have a more severe problem because of the large number of municipalities that manage residential waste through individual subscription systems. In these municipalities, some residents choose to dump their waste illegally rather than pay for a hauler for proper collection and disposal. However, there are other factors that contribute to the problem. Some haulers will not service rural or isolated parts of the counties, thus forcing residents to transport their waste to the nearest landfill or transfer station for proper disposal. Also, some haulers will not collect what might be considered construction and demolition waste generated at the residential level, as a result of remodeling and similar activities. These materials include items such as drywall, roofing, shingles, siding, lumber, bricks, and concrete. Other difficult-to-dispose-of items such as tires, auto parts, appliances, and furniture often end up in illegal dumps. Proper disposal of these materials may require that the residents haul them to a disposal facility during operating hours (or rent a roll-off bin from the waste hauler), and pay to dispose of the waste, an inconvenience or expense that some wish to avoid.

Some homeowners in municipalities with individual subscription services may choose not to subscribe to a waste collection service, simply to save money, or to “share” a hauling service with neighbors or relatives at one house (a practice that is not technically allowed by most haulers). When it becomes a burden for

homeowners to haul this material to a disposal facility, or when a contractor who has agreed to dispose of the material decides to avoid the cost of disposal, some of this waste may also be dumped illegally.

Keep Pennsylvania Beautiful (formerly PA CleanWays) and Surveys

Keep Pennsylvania Beautiful is a non-profit organization that works to eliminate illegal dumping and littering, that began surveying illegal dump sites in 2005, with an ultimate goal to survey the entire state of Pennsylvania by 2014. Illegal dumpsites pose a direct threat to the health and safety of humans and animals. Illegal dumping attracts disease-spreading rodents and mosquitoes by giving them a place to live and breed. West Nile Virus, carried by mosquitoes, has been a primary concern of environmental officials. Illegal dumps also can be a source of physical injury for humans and animals due to broken glass, rusty metals, and toxic substances. Methamphetamine labs, used to produce the illegal drug crystal meth, are becoming more and more common. The materials used to make the illegal drug are tossed along the roadsides in illegal dumps, and are extremely toxic.

Environmentally, illegal dumping pollutes our soil, surface and groundwater supplies, as well as the air we breathe if a site catches on fire. The emissions released by the burning of plastics and household hazardous waste can be extremely toxic. It is also ugly, and ruins the beauty of natural areas, including many public places such as community parks and state forests, parks, and game lands.

Economically, illegal dumps are expensive to remediate. The estimated cost to clean up a site can be anywhere from \$600 to over \$1,000 per ton for cleanup and removal. Illegal dumpsites can also impact property values, can be a liability for property owners, and affect property purchases and transfers. Tourism revenues can also be affected by illegal dumps.

In *Keep Pennsylvania Beautiful* surveys, areas that are considered to be an illegal dumpsite are:

- Areas of concentrated trash
- Areas of scattered trash that:
 - Are not considered roadside litter
 - Appear to have new trash thrown on them occasionally (more than twice per year)
 - Appear to have new trash thrown on them occasionally, but cleanup maintenance is prevalent to prevent accumulation.
- Areas containing only piles of yard waste (grass, leaves, branches, trees, etc.). These sites can often attract the dumping of other materials and can grow into major dumpsites, and,
- Areas containing isolated or solitary items, such as 1 or 2 appliances or tires that may or may not be dumped on in the future.

Two types of dumpsites that are not evaluated by *Keep Pennsylvania Beautiful* are farm dumps and private dumps. A majority of today's farmers have inherited farm dumps on their properties, although some farmers continue to practice this illegal method to save money and time. Private dumpsites are those dumps which are put on the property by current or previous owners. These dumpsites can include stockpiles of scrap, yard waste, household trash, and other things you may find in an illegal dumpsite. A dumpsite is usually determined to be private by its proximity to a residence, or marked private with no trespassing signs.

According to *Keep Pennsylvania Beautiful*, the possible causes of an illegal dumpsite can include the following:

- Municipal curbside trash collection is unavailable because it is not mandated by the State, trash collection options are dependent on the city or municipal government. As many rural and small-town municipalities lack funding for mandatory trash collection, it is up to the resident to pay for trash collection. Communities that depend on private subscription for waste collection services have reported greater dumping problems. Inherent inefficiencies and associated higher costs exist in almost

all private subscription systems because trucks must travel long distances between customers, although higher costs may be partially offset by increased competition.

- Recycling programs are unavailable or inconvenient - Act 101 dictates that all communities with populations over 10,000, and densely populated municipalities between 5,000 and 10,000, have recycling programs. Communities that fall outside of these parameters must pay for recycling on their own. Depending on the county, many or all of these communities do not have funding to support a curbside recycling program. Curbside recycling communities have reported a lower incidence of residential waste accumulation problems and a slightly lower incidence of dumping problems.
- Disposal of Construction and Demolition debris (C&D) - C&D debris is a serious solid waste management issue because of the amount that is generated each year, along with the lack of convenient and/or affordable disposal options available. C&D debris is often found in illegal dumps and creates a compounded problem because some of the materials may be hazardous, such as wood that has been chemically treated or painted with lead-based paint, insulation containing asbestos, or shingles.
- Shortage of enforcement - Unfortunately, many communities cannot devote people and resources to effectively deal with illegal dumping. As a result, dumpers do not fear prosecution and have no reason to stop their habits.
- Education - Illegal dumping has been a learned habit for many. Prior to anti-dumping laws, it was common practice to use open town dumps, burn or bury trash, or dump in a convenient out of the way area. Today we know the harmful effects from illegal dumping. Education is key to diminish the habits learned and teach the public proper and safe disposal practices.

Keep Pennsylvania Beautiful conducted a survey of open dumping practices in Beaver County in 2010. The Study identified 120 dumpsites containing an estimated total of 333 tons of trash. Eighty-nine percent (89%) of the dumpsites were considered to be a continuous problem where dumping occurs routinely, and 93% of the dumpsites were located in rural areas. Of the 54 municipalities in Beaver County, 24 were found to have illegal dump activity, and 69% of the sites were located in municipalities that are without a curbside recycling program. (see Appendix A, item A.7 for a copy of the 2010 Report)

Open Burning



Open burning of wastes (like open dumping) is prevalent in the more rural parts of Pennsylvania. Burn bans are often implemented and are most successful in municipalities with higher population densities. There are health and safety impacts of this practice, including air pollution from inefficient combustion, fire risk, the needless burning of recyclables, and smoke and odor nuisance impacts on neighbors. Residents sometimes try to save money by burning their waste instead of paying a commercial hauler to collect and dispose of it. The “right” to burn one’s waste in the backyard often becomes an electrically charged debate.

PADEP has noted that the burning of solid waste is illegal under Act 97, the Solid Waste Management Act. Section 601(3) of the Solid Waste Management Act, 35 P.S. § 6018.610(3), provides that it shall be unlawful for any person or municipality to burn solid wastes without a permit from the Department. The burning of recyclables is unlawful under Section 1501 of Act 101, and in fact, the PADEP will not pay 902 recycling implementation grants or 904 recycling performance grants to municipalities that do not have an anti-burn ordinance for recyclables in place. From a practical standpoint, the PADEP has typically relied on local municipalities to enforce these regulations, resulting in the need for local ordinances to define “allowable” practices within each municipality.

5.2 WASTE FLOW CONTROL CONSIDERATIONS

Waste Flow Control: the Law - Many legal and regulatory actions have impacted the ability of counties to control waste and collect fees for the proper management of recyclable and disposable materials. In 1994, the U.S. Supreme Court issued a wide-reaching flow control decision in *C. & A. Carbone, Inc. et al., v. Town of Clarkstown, NY*, which was subsequently interpreted by lower courts to place serious limitations on the use of County waste flow control ordinances. It effectively resulted in a change of many county solid waste plans, from flow-control-based plans to menu plans. The 2007 *United Haulers Association, Inc., et al. v. Oneida-Herkimer Solid Waste Management Authority, et al.* U.S. Supreme Court case provides relief to the Carbone ruling, in cases of publicly-owned waste management facilities and flow-control powers of public entities. Oneida-Herkimer's application to current flow control options is further explained in the section below on Legislative Flow Control.

In 2004 the PA Waste Industries Association (PWIA) contested the administrative fees collected by the Lycoming County Landfill for the Snyder County Solid Waste Authority and four north central counties, Union, Columbia, Northumberland and Montour. Lycoming County Judge Dudley Anderson concluded that "the Defendant Counties may impose the administrative fee only if expressly authorized to do so by the Act" in February 2005. Since he perceived no explicit authorization in any of the acts the fees were declared illegal. The case was appealed but the original ruling was upheld by Commonwealth Court in an October 14, 2005 decision. Being a solid waste authority that is authorized to collect fees by the Municipal Authorities Act, Snyder County SWA appealed the decision to the State Supreme Court via a Petition for Allowance of Appeal on November 22, 2006. The Supreme Court denied that request on March 16, 2007.

Flow Control Alternatives - Generally, there are three types of waste "flow control" that have been practiced, with varying degrees of success, in the United States.

- **Legislative Flow Control** consists of laws and regulations that are enacted at a local level to mandate the delivery of the waste to a destination point (e.g. to a landfill, transfer station, waste-to-energy facility, etc.). This form of flow control, when it restricts the free flow of waste as a commodity under interstate commerce protections, was originally determined to be unconstitutional by the U.S. Supreme Court in the Carbone case. In 2007, this ruling was overturned in the Oneida-Herkimer case, as it relates to flow control of waste to public facilities. Thus, legislative flow control has now been determined to be legal if the County implementing the flow control legislation has a financial holding in the disposal facility for which it is sending waste to, and if it can demonstrate public service benefits to its users. For example, if a County is operating a waste management facility, and the operations of that facility are dependent on receiving the waste from that County, then the County can legally enforce legislative flow control to direct waste to the County disposal facility, if it can demonstrate that it meets certain beneficial thresholds to the region. It is believed that other counties could also similarly direct waste to a publicly-owned facility, in another county, in conformance with the Oneida-Herkimer decision. This type of flow control is commonly implemented through a county ordinance, along with other coordinated steps.
- **Economic Flow Control** occurs when the waste management system is structured to provide the most economical means of waste management at the designated facility. As an example, if tipping fees at the designated facility can be reduced (generally through subsidies from other revenue sources) to a point where it is more economical for haulers to take waste to the designated facility than elsewhere, then economic flow control can often be achieved. One way in which this has been accomplished is to finance some facility costs by incorporating revenues via the tax base to cover some costs rather than strictly through tipping fees. When this is done, the resulting tip fee can be potentially lowered or eliminated altogether. In this arrangement, a hauler has a distinct economic incentive to deliver waste to the facility. Another way to help accomplish this form of waste security is to operate more

efficiently and to control costs in order to offer more competitive, economical tip fees than the competition.

- **Contractual Flow Control** occurs when an entity (such as a transfer station or disposal site) contracts directly with haulers to provide disposal services under pre-established compensation terms (i.e, tip fees). Contractual flow control has been the most commonly used method to secure long-term delivery commitments for waste since the Carbone ruling in 1994.

Another form of contractual flow control that is commonly utilized in Pennsylvania is through a “municipal waste collection bid contract”. A municipality is responsible for the health, safety and welfare of its residents, and has the power to insure the proper handling and disposal of wastes generated from within its borders through a municipal waste (and recyclables, if desired) collection and disposal contract. This contract can include the designation of the facility or facilities where the municipality requires the waste (and recyclables) to be contractually delivered to. If, for example, all municipalities within a county designate a certain facility to receive their wastes, this would in essence control the flow of all regulated waste from within that county to the facility by contract. Similarly, school districts, businesses, industries, etc., that contract for waste collection, can also designate the services they require and the disposal site for collected waste (and recyclables) if they wish to do so.

Securing Waste Disposal Capacity for Beaver County

As part of the Municipal Waste planning process, each county in Pennsylvania is required to secure ten (10) years of disposal capacity for municipal waste generated from within its borders. In the 2004 Municipal Solid Waste Management Plan, the County selected nine disposal facilities, and Agreements were signed for a total capacity of 782,960 tons/year of waste disposal, which was identified as being more than 4 times the anticipated capacity required.

With these Agreements, haulers are generally free to take municipal waste from a given municipality to any disposal site of their choosing, as long as the site was designated in that County’s municipal waste plan, unless the municipality had specific disposal requirements in place.

Flow Control Considerations in the Beaver County Study

Flow Control by County Ordinance is not considered acceptable for Beaver County, given the recent (May 2007) Oneida-Herkimer court decision (since the County does not currently have any publically-owned waste disposal facilities).

Therefore, this County Plan will not further consider the alternative of implementing legislative county flow control by county ordinance. Should some form of flow control be determined to be needed in the future, and should it gain the support of the County leaders, this concept could be reassessed in the future.

For instance, it is recommended herein that the County consider the possibility of purchasing or constructing a Waste Transfer Station. This would permit the County to implement Flow Control of all County waste intended for disposal, allowing the Commissioners to negotiate specific agreements with one or more disposal facilities, such that the County would control the tipping fee charged to haulers. Note that implementation of Flow Control would require that this Plan be modified with a Substantial Plan Revision to change the recommended capacity assurance method discussed in Section 5.8.

This still leaves other “tools” to help secure waste deliveries to a public facility, including other forms of legislative, economic and contractual means. This County Plan employs a “Menu Plan” approach to secure 10 years of MSW disposal capacity, prequalifying multiple disposal facilities through an open and competitive process. Qualifying facilities can then be designated to receive municipal wastes generated in the County. Once these sites are designated under this Plan, municipal wastes from the County will need to be taken to the

facilities that are designated in the plan for disposal. A process was also established in this Plan to allow additional facilities to request consideration for inclusion in the Plan as a designated facility in the future.

Note of clarification to readers: in a 2010 Guidance Document issued by PADEP on the preparation of Municipal Waste Management Plans, PADEP states the following regarding what is commonly referred to as “Menu Plans” that are in widespread use, and are widely accepted in Pennsylvania. “The term “flow control” is often used to describe the situation where the county requires by law that waste generated within its boundaries be delivered only to facilities designated in the county plan. (Flow control is also generally used to describe a situation where an exclusive franchise for waste pickup is granted to a single waste hauler by a municipality.) An Act 101 plan will be considered a “Flow Control” plan even if a county designates more than one facility which may lawfully receive waste generated within the county. It is only when a county allows waste to be disposed or processed at any permitted facility that the plan will not be considered to include “flow control.” A county which decided not to use “flow control” as part of its plan must still assure that it has adequate processing and disposal capacity for all county-generated municipal waste during the next ten years.” Thus, the Menu Plan approach that is being used in this County is still technically referred to as a “Flow Control” Plan by PADEP.

5.3 WASTE AND RECYCLABLES COLLECTION AND TRANSPORTATION

This section discusses the various methods currently in use, or potentially available, to the municipalities located in the County for collection and transportation of waste and recyclables. Note that a significant portion of the County is serviced by Private Subscription from Private Hauling Companies, so cost and revenue information was not available.

5.3.1 Collection

Municipal Solid Waste (MSW) Collection - There are three basic methods for the collection of MSW (residential/commercial/institutional refuse) that are practical in Beaver County.

- Individual households and businesses can each contract directly with a private waste hauler for refuse collection services, with limited or no municipal involvement. This is referred to as subscription collection.
- Municipalities can contract via a public bidding process with a private waste hauler to provide refuse collection services to their residents (and institutions and small businesses, typically). This is referred to as contracted collection.
- The municipality itself (or a series of municipalities can join together) can provide the collection and transportation of MSW to the disposal site. This is known as municipal collection.

See Table 2 in Section 1.8 for a listing of designated haulers and fee types, as defined by each Municipality.

Subscription collection is the method of waste collection used by roughly ½ of the municipalities in the County. In this method of collection, residents, commercial, industrial and institutional customers contract directly with private haulers. The advantages of subscription collection include:

- Competition – subscription collection encourages the entry of multiple haulers into the market. This provides competition among the haulers servicing a certain municipality and often creates cost benefits to the residents as well as various service options to fit resident’s needs. Subscription collection allows residents to choose their trash hauler and collection options.
- Recycling – Most haulers that operate by subscription offer a range of services, including various types of “pay-as-you-throw”. Customers who recycle can thus see an economic benefit related to reduced waste material (as they reduce the number of bags of waste generated).

- Local Markets – Most local haulers do business with other local businesses; consequently, they are integrated into the economies of the local communities they serve.
- Small Business – Because of the competitive nature of subscription collection, small “mom-and-pop” haulers (that have lower overhead costs) can compete successfully with larger companies for customers.
- Minimal Municipal Involvement – Subscription collection requires the least municipal involvement of all the collection methods. Subscription collection does not require the municipality’s involvement in collecting fees which can be a benefit to understaffed municipalities.

The disadvantages of subscription collection include:

- Increased Truck Traffic – In areas serviced by subscription collection, multiple haulers may be collecting waste in one municipality, even on one street, Monday through Saturday. Multiple haulers serving one area often means multiple days of collection, therefore creating increased truck traffic, air pollution and noise pollution.
- Inefficiencies in Collection – Multiple haulers may lead to inefficient collections and/or missed collections within a municipality. Where there are inefficiencies in collection, some subscription haulers may not be able to offer services for the same price as one hauler who serves an entire area.
- Rural Collection – It may not be economically feasible to collect waste in rural areas through subscription collection due to the limited number of residents available to be served and the length of travel distance between collection routes. This sometimes leads to illegal dumping or burning of waste materials due to a lack of alternatives to rural residents.

Although the current system has clear advantages, there are also disadvantages that a municipality may want to address. To do this, the municipalities within the County may want to consider municipal bidding for contracted collection of residential/institutional/small commercial customer refuse. In many situations, refuse collection fees decrease when local governments contract for refuse collection services (contracted collection) on behalf of their residents, as opposed to when residents directly contract for refuse collection through subscription collection. This often occurs because, when a municipality bids for collection services for an entire area, the hauler can offer services more economically, since they are guaranteed to pick up all customers within that area, and may service a larger number of customers (economies of scale) than may be possible with subscription service.

In addition to the potential financial benefits of contracted collection, there are additional advantages as well:

- Control of Collection Services - contracted collection with private haulers allows local governments to indicate the types of collection services to be provided under contract (unlimited collection, pickup with can limits, or straight pay-as-you-throw; bundled curbside recycling services with the waste collection; with or without direct customer billing; with or without disposal costs included; with reporting requirements for wastes and recyclables collected; etc.).
- Designation of a Disposal Facility - a municipal waste disposal contract can also (but does not have to) designate the disposal site or sites where the municipality wishes the contracted hauler to dispose of the municipality’s waste, and can also designate a site where the recyclables are to be taken (if part of the contract).
- Reduction in Waste Vehicles – contracted collection can reduce the number of waste vehicles within a municipality as compared to subscription collection, which results in more efficient collection with less truck traffic, road wear, air pollution and noise.
- Reduction in Illegal Dumping Activities - contracted collection can also help limit the occurrence of illegal dumping, as residents with this form of collection are provided with consistent and reliable refuse collection services and, therefore, are less likely to illegally dispose of waste and/or accumulate waste for long periods of time.

There are also disadvantages to contracted collection. These include:

- Reduction in Solid Waste Haulers - Contracted collection may take business away from haulers servicing that municipality, if the hauler is not the selected waste hauler for the contract. In some situations this may lead to smaller haulers no longer doing business within the County. Sometimes, haulers are hesitant to support contracted collection programs because they may be perceived as favoring larger haulers that have greater fleet and staff capabilities, or because the contract may contain contract requirements (services, insurances, guarantees, etc.) that small haulers cannot easily comply with.
- Increased Municipality Involvement – Contracted collection requires more involvement on a municipal level. Municipalities are often responsible for collecting the fees from residents associated with their waste service, as well as handling complaints and general residential issues relating to waste and/or recycling collection. This may require more municipal staff time.
- Rural Collection - a municipality that is primarily rural in nature may not benefit from contracted collection. Residents may be required to pay a higher rate for waste and/or recyclables collection due to the nature of the collection routes, and haulers may not even bid on providing curbside collection service in some rural areas, similar to a subscription hauler's reluctance to serve some very rural areas. There also may not be a large enough population to justify contracted collection.

In rural areas with sparse population, municipalities may also want to consider contracting specific routes to one or to multiple haulers. Where subscription service to a rural area may be uneconomical, a defined route may make the economics work for some haulers. If some municipalities within Beaver County decide that contracted collection through a County contract is something worth pursuing, the County Department of Solid Waste Management may be able to coordinate collection with private haulers in multiple municipalities, thus potentially further decreasing the cost of refuse collection for residents, and increasing the efficiency and safety of collection for the waste haulers.

Recycling Collection - The collection methods for recycled materials are similar to the collection methods for residential waste. Recycled materials can be collected curbside through municipal collection, contracted collection, subscription collection, or drop-off/transfer collection. The details of these collection methods (other than drop-off/transfer collection) are described above.

Regarding curbside collection of recyclable materials, three methods can be used: *source-separated*, *dual-stream*, and *single-stream*. Source-separated and dual-stream recycling require greater effort by the customer and hauler, but the recycling facility's processing effort is decreased. Single-stream recycling involves much less effort by the customer and hauler, but requires a more complex processing system and greater effort at the recycling facility to process the mixed recyclables. There are currently several single-stream recycling facilities in the Southwestern PA Region, although it was unclear as to whether these facilities are being used by private haulers within the County.

- *Source-separated* recycling requires residents to separate their recyclables into separate containers at the curb. This method makes processing much simpler and inexpensive, and tends to result in a cleaner recyclable material collected (which improves market value).
- *Dual-stream* recycling is similar to source-separated recycling, with the recyclables commonly separated into 2 categories: bottles/cans and paper fiber. Dual-stream recycling typically has the same benefits as source-separated recycling, but the collection method is slightly different. For example, glass and plastics may go in one container while paper fiber (cardboard, newspaper, etc.) go in another. Both source-separated and dual-stream recycling operations require the hauler to either place recyclables from the curb into different containers in the recycling truck, or to make multiple collections, for transportation and delivery of the material to the recycling center.
- *Single-stream* recycling collects all of the recyclable materials in a single container at the curb. Some of the benefits of single-stream collection are: ease of separating in the home, higher residential

participation rates, higher quantities recycled, increased collection efficiency, the ability to recycle additional types of materials, and the ease in which a municipality can incorporate small businesses and multi-family units into the program. Some of the disadvantages of single-stream recycling include lower recyclable market revenues, higher capital processing costs, decreased quality control at the curb, increased product contamination, increased transportation costs, and the potential to have to dispose of more material due to the contamination factor. Both dual-stream and single-stream collections require access to materials processing facilities in the region that can receive and further process the collected mixed recyclables, or longer haul distances for out-of-county processing.

There are many factors to consider when selecting a recycling program, such as what types and size of containers to give residents, what materials to collect, what type of truck will best suit the collection program, what types of recyclables processing infrastructure is available in the area, how the recycling program will be funded (i.e. include in a subscription cost, pay through local taxes, fund through a pay-as-you-throw program, etc.) These considerations may be dependent on the type of waste collection program used.

Tables 9 through 11 in Section 4.2 identify the various types of recycling collection programs offered in the 53 municipalities in Beaver County.

5.3.2 *Transportation and Disposal*



In June 2002, Pennsylvania approved amendments to the existing solid waste management statutes (adopted as PA Act 90) that, among other provisions, established a statewide waste transportation safety program, including a registration program for all waste haulers doing business in Pennsylvania. Any waste hauler with a GVW (gross vehicle weight) of over 17,000 pounds and trailers with a registered gross vehicle weight greater than 10,000 pounds that transports municipal or residual waste to a waste

processing or disposal facility in Pennsylvania must have a valid Waste Transporter Authorization issued by the PADEP. This program is administered by the State and prohibits counties or municipalities from implementing any new municipal waste or residual waste transportation authorizations or licensing programs (note – since the Act 90 program relates to licensing of larger waste vehicles, it leaves open the possibility of establishing a separate local licensing program for waste vehicles with less than a 17,000 pound GVW). Based on this legislation, all larger haulers doing business within the County need to meet the requirements of the State program, and hauler data collected from the State program is available on the Pennsylvania Department of Environmental Protection (PADEP) website at:

<http://www.portal.state.pa.us/portal/server.pt?open=514&objID=589642&mode=2>

The law prohibits processing and disposal facilities from accepting waste from regulated waste transportation vehicles that do not have a valid authorization. It is up to individual counties to monitor waste hauling and disposal activities (although the counties typically have limited enforcement capabilities, and must rely on the DEP).

Some counties in the Commonwealth continue to register (as opposed to license) haulers, usually with a minimal (or no) fee, to help ensure that basic information on the haulers, the municipalities served and the materials collected, is reported to the county or municipality regularly.

Municipal Solid Waste (MSW) Transportation and Disposal - Under Act 101, it is the responsibility of each municipality to provide for the proper collection and transportation of municipal waste generated from within their municipal borders. There are three (3) ways that waste can be transported to a disposal facility. Residents or businesses can transport their waste directly to a disposal facility; waste haulers can collect waste at curbside and transport it to a disposal facility; or municipalities can collect waste at curbside and transport it to a disposal facility. A “disposal” facility in this context can be a regional transfer station, a landfill, or

another type of permitted processing or disposal facility. All municipal waste generated within Beaver County must be transported to a County designated disposal facility, with larger haulers duly licensed by the State as required by Act 90.

Currently, all municipalities within the County rely on direct hauling by private haulers for transportation of MSW from the curbside to a disposal facility. MSW from residents within the County can be transported to any one of the Plan-approved disposal facilities.

Estimating costs associated with transportation of MSW from the collection point to the ultimate disposal location is a complex calculation, based on numerous variables, including: type of collection vehicle, type of waste being collected, ability to compact the waste prior to hauling, hauling speeds, crew size, turnaround time at the disposal site, fuel cost, and the distribution of collection points along the route, in addition to other factors. However, assuming that other variables remain the same for an individual hauler, the critical factor (other than tip fee) in assessing the economics of selecting a disposal facility is the distance traveled from collection to disposal.

See Section 5.8 for a discussion of the method intended for use in establishing Agreements with disposal facilities that will be designated for inclusion in the Plan for the next 10 years. Detailed discussions of the designated facilities will be included in Appendix D, and the location of the facilities will be shown on the Exhibits, once the Agreements are finalized.

Recycling Transportation and Disposal - As with MSW, recyclables can be transported in three ways to a disposal facility: directly by residents and businesses, by waste haulers, or by municipalities. A disposal facility in this context includes a drop-off site, a transfer station, or a materials recovery facility (MRF), or other suitable facility. Ultimately, the goal is for all segregated recyclables to be shipped to markets for reuse, or reused locally (such as inert materials that can be used for pipe bedding or aggregate).

Drop-off recycling sites can supplement curbside collection, and in areas where no curbside collection exists, provide the only opportunity for recycling. Drop-off recycling sites can enable a municipality to expand their current recycling program by enabling them to accept a broader range of materials from their residents than a hauler may collect. Typically, rural municipalities are not mandated to recycle under Act 101, and thus haulers may not offer curbside recyclable collection. Drop-off locations can provide residents the opportunity to recycle when their hauler does not offer it. The municipalities which are mandated to recycle within the County are identified in Section 4.2.

Drop-off locations can be permanent sites or mobile sites. Permanent drop-off sites are sites which contain recyclable drop-off containers at the same location year-round. Each drop-off site operates with specific hours and days of operation; this information is often available by calling the local municipality. A permanent drop-off site may be located at a municipal building, a local park, a local business parking lot or similar locations within the municipality. Mobile drop-off sites are typically moved from one location to another location, to offer recyclable collection to the maximum number of residents and geographic areas. Mobile sites may be beneficial in rural areas where a permanent site is not feasible, but where the residential desire to recycle more material is high.

Each permitted landfill and transfer station in Pennsylvania is also required by Act 101 to provide a permanent recyclables drop-off site at or near its facility. Residents, businesses, haulers and municipalities can also transport their recyclables to these drop-off sites. These facilities act as drop-off locations within a larger facility for residents and businesses, while haulers and municipalities who haul recyclables can bring larger loads to these facilities for sorting and processing. Transfer stations often have the capability of processing recyclables on site (i.e. sorting, baling, compacting, etc.) and subsequently transporting these recyclable materials to the best available markets.

A Materials Recovery Facility (MRF) can also accept recyclables from residents, businesses, institutions or haulers. A MRF can be classified as “clean” or “dirty”. A “clean” MRF accepts recyclable materials that have been segregated from MSW by residents prior to delivery or placed separately at the curb for pickup. Recyclables are usually sorted, baled, shredded, crushed, or otherwise processed for shipment to the best available market. “Dirty” MRFs accept a mixed solid waste stream and separate out designated recyclable materials through a combination of manual and mechanical sorting. The sorted recyclable materials are further processed for shipment to the best available market, while the remaining residual waste is sent to a disposal facility, such as a transfer station or landfill.

5.4 ECONOMIC MARKETPLACE ANALYSIS

The concept of an “economic marketplace” is the combination of public and private haulers, processors and disposal sites that serve the County with waste management and recycling services, and the system of costs incurred and fees charged for services provided throughout the County. Solid waste and recycling fees charged to residents and businesses within the County include the costs of collection, hauling and processing/recycling/disposal. Current costs charged are important to this system, since waste transportation decisions are largely driven by hauling and disposal economics, as well as the suitability and range of services provided. This discussion focuses in some detail on the current marketplace that serves the County.

As discussed in Sections 1.3 and 2.1, there are nine (9) disposal facilities that accepted municipal waste generated within Beaver County between 2001 and 2011. Six of the facilities are located in the Commonwealth, 2 are located in Ohio and the final facility is located in West Virginia. Tipping fees associated with these facilities are negotiated individually with the haulers that service County municipalities, and individual tipping fees were not available for this Plan.

The current Menu Plan Flow Control Method in place within the County, and the proposed method for waste disposal capacity assurance, permit the waste haulers to utilize any of the disposal facilities which have signed agreements with the County, and are included in this Plan. With that in mind, it is difficult to determine specific costs associated with hauling and disposal of waste material within the County. Similarly, given the wide range of methods utilized for recycling of waste products within the County, it is difficult to assess the actual costs and economic benefits associated with the County, municipal and private recycling programs.

However, there is a well-established and vibrant commercial recycling program in place within the County to address some components of the waste stream, specifically Ferrous Metals, Stainless Steel, Mixed Metals, White Goods and Asphalt. It is recommended that these programs be encouraged, and that the existing programs for Act 101-type recyclable materials be expanded to include additional materials, as well as additional locations throughout the County.

5.5 FACILITIES ASSESSMENT

Current County-owned facilities for recycling services are identified in Section 4.3, and recyclables collection methods for individual municipalities are listed in Section 4.2. The current facilities appear to be adequate to meet the immediate need of the residents and businesses of Beaver County, but it is recommended that additional services and facilities be included to meet the growing demand for more recycling. Specific recommendations for the expansion of recycling services within Beaver County are included in Section 4.6.

With respect to waste disposal, it appears that there are currently sufficient facilities within the region to assure the disposal capacity for the next 10 years of waste generation within the County. As recommended, the

County prepared a Solicitation of Interest (SOI) for inclusion in the Plan by those disposal facilities that would like to be included in the Plan. The specific method for development of this SOI is discussed in Section 5.8, and the disposal facilities included in the Plan are listed in Appendix D.

In addition, it is recommended that within the next few years, the County consider the possibility of purchasing or constructing a Public MSW Transfer Station. Some of the advantages of a County-owned transfer station include the following:

- All haulers in the County would pay the same tipping fee at the transfer station.
- Most haulers would have a shorter direct haul to the transfer station than to a landfill.
- The County would have considerable leverage in bidding/negotiating a tipping fee with one or more landfills given that they would control 100% of the County-generated municipal waste, and this should result in a lower tipping fee based on economy of scale.
- With a lower tipping fee, the County could include a recycling sustainability fee with the gate rate at the transfer station without a substantial change to the total costs to municipalities and County residents.
- The County could expand the transfer station to include a recycling MRF and/or composting facility with a relatively small additional capital expenditure.
- The County would have immediate access to refuse and recycling data as opposed to relying on the landfills and MRFs to supply the data periodically.

In spite of these advantages, it is not recommended that the County pursue a Transfer Station as part of this Plan Update, for the following reasons:

- There is insufficient time remaining before the Plan Update is due to be submitted to the PADEP to complete the necessary research, permitting and design.
- If the transfer station was not in place by the end of 2013, the County would not be able to document capacity assurance for waste disposal.
- A transfer station, whether through purchase of an existing facility or construction of a new one, will require a substantial capital expenditure. It is not currently clear whether the County Commissioners would be willing to agree to sufficient capital to make a transfer station feasible.
- Use of a transfer station would require implementation of Legislative Flow Control within the County, and this would require a Substantial Plan Revision. This would necessitate considerable communication with County municipalities and ultimately ratification by more than ½ of the municipalities, representing more than ½ of the County population, as well as a series of Public Meetings to present the benefits and costs of the proposed revision.

With this in mind, it is recommended that the process described in Chapter 6 be initiated for implementation of a Menu Plan Flow Control program, but that the County considers the potential for a transfer station over the next few years. In the event that a decision is made to pursue a transfer station, a Substantial Plan Revision to the approved Plan Update would be necessary, although this revision would only require modification of those items specifically impacted by the change.

5.6 PROCESSING / DISPOSAL ALTERNATIVES

There are numerous waste processing and disposal system alternatives that are currently available in the industry. In the interest of space, a discussion of all of the alternatives has not been included herein.

The Southwestern PA Region has sufficient alternatives for processing of recyclables and disposal of waste materials, such that it is not recommended that alternative methods (such as waste-to-energy incinerators) be considered for the Beaver County Plan Update. Other than the possibility of a waste transfer station, and the

expansion of existing recycling facilities to consolidate (and potentially to process) recyclable materials, it does not appear that additional processing/disposal alternatives are necessary for Beaver County.

5.7 WASTE AND RECYCLING RECOMMENDATIONS

The waste and recycling management system recommended below for Beaver County is intended to accomplish the following:

- Meets Public Goals – This recommended system was selected on its technical, economical, environmental and long-term merits. It meets the requirements to provide for 10 years of disposal capacity and to propose a system to attain an ultimate goal of increasing the amount of recycling available to residents.
- Cost-Effectiveness – Haulers can select from a list of designated disposal facilities. Haulers will have the option of selecting the designated processing/disposal facility that offers the best opportunity to meet their individual needs to deliver MSW collected from the County.
- System Flexibility – The County has not committed specific amounts of waste to any of the disposal facilities which will be designated in this County Plan. Therefore, if a hauler, municipality or business can secure a more competitive tipping fee at a facility other than those designated, additional facilities can be added as opportunities arise. Having a number of facilities available results in competition that helps minimize costs.
- Adequate Disposal Capacity – The system will have more than adequate capacity to manage all municipal waste and recyclables generated in the County. There is no need to seek additional facilities or consider other management options unless a petition to add a site is received by the County.
- Logical Extension of Existing System – The County has a professional staff that currently engages in waste handling, recycling, yard waste composting, public education and financial management activities. However, this professional staff is stretched on budgets and available time, and a continuation of the current approach will be more efficient.

5.7.1 Collection and Transportation of Refuse and Recycling

MSW and Recycling Collection - Waste collection is a local municipal responsibility. The collection methods for MSW and recyclables that are practical for this County include municipal collection, contracted collection, subscription collection and drop-off/ transfer collection.

These alternative methods are discussed in more detail in Section 5.3, and the following is the current status of MSW collection in the County:

- None of the County municipalities currently utilize municipal collection.
- Contracted collection (wherein municipalities typically bid for refuse and/or recycling collection and disposal/recycling services with a single hauler) is currently in use by roughly ½ of the County municipalities.
- Subscription collection (individual contracts between haulers and customers) is the dominant method currently in use by roughly ½ of the municipalities in the County. (Note that based on PADEP clarifications, it may be difficult to comply with Act 101 recycling requirements by using a subscription collection system to collect recyclables in municipalities that are mandated to recycle under Act 101.)
- Drop-off collection is currently in use in multiple locations within the County for recyclable materials. Section 5.3 includes a recommendation that the County consider implementation of a future MSW transfer station, but that method is not included herein as part of the current Plan Update.

The Plan acknowledges that each of these collection systems appears to be feasible in portions of the County. Individual municipalities will retain the choice of what kind of waste and recycling system they wish to have in their community. This Plan recommends that municipalities consider bidding for services, adding or bundling multiple services in a municipal bid, or possibly saving its residents money through municipality-wide bidding for common services in an open and competitive format. Multi-municipal bids may even be used to take advantage of economies of scale, or to help provide services where subscription haulers are reluctant to serve.

Contracted MSW collection services can be modeled around the municipality's needs, such as: weekly or bi-weekly curbside refuse bag collection (unlimited or a specific quantity of bags); pay-as-you-throw refuse bag collection (can be the only collection service offered or paired with a curbside bag collection program that limits the quantity of bags); weekly, bi-weekly or monthly recyclables collection (variety of recyclables collected can be stated in the contract or negotiated between the municipality and the hauler); bulk item collection (frequency and items accepted can vary); and leaf and yard waste collection (frequency and items collected can vary). The bid can specify whether the hauler or the municipality will bill the customers for services and can even include collection of a local recycling services fee in the customer bill, which can be used to repay the municipality for managing the contract, providing education, etc.

The Plan acknowledges that many municipalities will continue to use the method of subscription refuse collection when it benefits their residents. The subscription collection method can allow small waste haulers to remain competitive as well as provide residents with the opportunity to select their own waste hauler based on costs and needs, while creating the least amount of responsibility for the municipality. Subscription collection may be beneficial for municipalities who are not mandated to recycle under Act 101, which contain a variety of waste haulers and which do not have the means necessary to monitor refuse collection. The Plan recommends municipalities who use subscription MSW collection enter into discussions with their waste haulers to provide increased recycling opportunities for their residents.

5.7.2 Processing/Disposal of Refuse and Recycling

MSW Processing/Disposal Alternatives - Because of the significant excess in available capacity within a relatively close proximity of Beaver County, capital-intensive alternative methods for processing the County's MSW were not seriously considered.

The County is responsible for managing the safe disposal of their municipal waste. The system described in this Plan (see Chapter 6) helps ensure that municipal waste generated in Beaver County will be delivered to facilities that are legally permitted and contracted with the County, consistent with Act 101 requirements.

As part of this Plan Update, a Solicitation of Interest (SOI) was issued to identify disposal facilities that wished to be included in the Plan as designated disposal sites. The SOI process, as well as the process for a facility to be added to the Plan at a later time, is summarized in Section 5.8, and in Chapter 6. Under this Menu Plan, any and all pre-qualified facilities (through a review of submissions in response to the SOI) that enter long-term disposal contracts with the implementing entity for this Plan are identified as designated facilities, and will be permitted to accept municipal waste from Beaver County under this Plan. There is a procedure in the Plan to add new designated facilities to the Plan in the future, when it is to the benefit of the County, individual municipalities, haulers, or businesses and institutions.

Having multiple facilities available promotes competition that will help to keep the system cost-effective. Having several facilities should also promote efficiency by giving haulers the option of using the closest facility. Maintaining hauler discretion to use the designated facility of its choice provides maximum flexibility to independent haulers. As noted above, the disposal system is more than sufficient to meet the disposal needs of the County, so the Plan recommends that the County not explore further waste processing/disposal options

for this 10-year planning period, except for the consideration of a MSW transfer station, as discussed in Section 5.5.

The process proposed to solicit interested disposal facilities ensures that all facilities anywhere in the United States have an opportunity to be included. The process used to solicit disposal sites was fair, open, and competitive. Additional disposal sites can petition to be added to the Plan in the future.

With this in mind, use of publicly and privately owned landfills, supplemented by a commitment to increase recycling, was selected as the Municipal Waste Management Program.

Recyclables Processing/Disposal Alternatives - This Plan acknowledges and supports the existing source-separated and limited mixed materials MRFs that currently operate in the Southwestern Pennsylvania Region. Support of, and growth of, the County's current recycling industry is a goal of this Plan, whether it is source-separated, limited mix, or dual-stream.

Should funding sources permit, it is recommended that drop-off sites that have been closed or reduced in scope due to loss of funding be re-established, and that new drop-off sites be developed where needed in the County. Use of possible grant funds in Beaver County which is consistent with and supportive of a comprehensive recyclables collection and processing program is recommended.

To support the expansion of current recycling programs in the County, the Solicitation of Interest document was expanded to seek both solid waste disposal capacity, and support for methods to sustain an enhanced Integrated Waste and Recyclables Management Program for the County. Projected costs for the individual Integrated Waste and Recycling Program items were generated and were included in the SOI.

5.7.3 Electronics Recycling

Electronic equipment contains metals that, if not properly managed or contained, can become hazardous wastes. Some of the materials contained in electronics include:

- Cadmium - the largest source of cadmium in municipal waste is rechargeable nickel-cadmium (NiCad) batteries.
- Lead - old monitors and televisions contain a cathode ray tube (CRT) that contains leaded glass. CRTs are the largest source of lead in municipal waste.
- Mercury - some electronic equipment also contains recoverable quantities of mercury.

The "Covered Device Recycling Act" (House Bill 708), PA Act 108 of 2010 establishes a recycling program for certain covered devices; imposes duties on manufacturers and retailers of certain covered devices; provides for the powers and duties of the PADEP, and for enforcement; establishes the Electronic Materials Recycling Account in the General Fund; and prescribes penalties for noncompliance.

A covered device is a covered computer device and covered television device marketed and intended for use by a consumer. A further description of these items is as follows:

- Covered computer device - A desktop or notebook computer or computer monitor or peripheral, marketed and intended for use by a consumer.
- Covered television device - An electronic device that contains a tuner that locks on to a selected carrier frequency and is capable of receiving and displaying television or video programming via broadcast, cable or satellite, including, without limitation, any direct view or projection television with a viewable screen of four inches or larger whose display technology is based on cathode ray tube, plasma, liquid crystal, digital light processing, liquid crystal on silicon, silicon crystal reflective display, light emitting diode or similar technology marketed and intended for use by a consumer primarily for personal purposes.

- Peripheral- A keyboard, printer or any other device sold exclusively for external use with a computer that provides input into or output from the computer.

The following website contains information on PA DEP's guidelines for electronics recycling as well as links to information on EPA's electronic recycling guidelines.

<http://www.portal.state.pa.us/portal/server.pt/community/household/14079/electronicmanagementprogram/589592>

5.7.4 Construction and Demolition Waste

Much of the construction and demolition (C&D) waste generated in Beaver County is recycled, disposed of at permitted municipal landfills, or handled otherwise. According to Table A.3 in Appendix A, there was a considerable increase in C&D waste originating from the County beginning in 2006, and this spike has continued through 2011.

The County should consider investigating other options for the safe handling or disposal of small volumes of C&D waste such as:

- Educating citizens about the availability of safe and legal opportunities to dispose of these materials;
- Identifying recycling and reuse opportunities for select C&D materials;
- Educating residents about the option to rent dumpsters or roll-off containers for collection and disposal of wastes created during remodeling projects;
- Providing a drop-off site for these materials; and
- Encouraging the enforcement of municipal waste ordinances as they apply to illegal dumping.

By the end of the 1-year implementation period, this Plan will provide for acceptance of C&D material at one or more of the designated disposal facilities in the Disposal Capacity Agreements.

5.7.5 Household Hazardous Waste

Beaver County conducted a Household Hazardous Waste (HHW) collection event in October of 2012, and another on October 13, 2013. These events have been conducted for many years with the cooperation of the *Southwestern PA HHW Task Force*, and it is recommended that the County continue to participate with the *Task Force* to provide annual or semi-annual HHW collection events in the County.

Residents are also encouraged to check with large retail stores and chains such as Wal-Mart, Home Depot, Lowes, Radio Shack, Staples, and Best Buy for recycling programs that may be available in local areas. Many items, such as used motor oil, may also be recycled at some Pep Boys, Jiffy Lube, and some local service stations, in addition to limited service at the Beaver County Recycling Center. Residents are encouraged to call the County Department of Solid Waste Management or check with their local municipal or the County websites for details. Market conditions dictate what items may be accepted, so residents should check new listings throughout the year.

Residents in most counties across the State have expressed a need for more HHW collection events, but unfortunately the funds to support these collection events are limited. The Plan recommends the development of a program sustainability fee which can in turn be used to support HHW collection events within the County. The Plan recommends the County advertise these events through local newspapers, county newsletters and County websites. Educating the public on these collection events, i.e. what is accepted, why it should be recycled, when the collection event is, who can participate in the event, etc., will ensure the maximum amount of participants at each collection event.

The Pennsylvania Department of Environmental Protection (PA DEP) has an Act 190 Grant titled Household Hazardous Waste Collection and Disposal Grant in which municipalities and counties that establish HHW collection programs may be reimbursed up to 50% of approved costs for the collection program. This grant

cannot exceed \$100,000. Given the Regional cooperative effort conducted by the *Task Force*, it appears that it is not currently necessary for the County or municipalities to apply for this grant.

5.7.6 Pharmaceutical Waste

The U.S. Drug Enforcement Administration (DEA) sponsored their 6th collection program with local law enforcement agencies and police departments for expired pharmaceuticals on April 27, 2013, called the National Take Back Day. These events will be advertised on the following website:
http://www.deadiversion.usdoj.gov/drug_disposal/takeback/

The Plan recommends that the County Department of Solid Waste Management continue to monitor the website to ensure that the County is able to take advantage of the National Take Back Day each year when offered.

As an alternative, visit <http://www.disposemy meds.org/> to find a community pharmacy near you that will take back unused medicines. Hosted by the National Association of Community Pharmacies, www.disposemy meds.org is an online resource to help individuals find medication disposal programs at a local independent community pharmacy (individuals enter their zip code in the Pharmacy Locator to find the nearest participating pharmacy).

Another site of interest is <http://www.smarxtdisposal.net/index.html>. This site gives instructions for proper disposal of medicines when a take-back program is not available.

The Plan recommends the County Department of Solid Waste Management place information on their website, in their newsletters and in the local newsprint pertaining to pharmaceuticals collection. The information can include businesses which will take certain pharmaceutical items and local collection events.

5.7.7 Marcellus Shale

The Marcellus Shale deep drilling operations generate drill cuttings, wastewater treatment sludges, and other residuals that will have a growing impact on MSW landfills in the region. By contracting for guaranteed landfill disposal capacity in Disposal Capacity Agreements, the County will assure that it retains sufficient capacity to meet its long-term needs. At this point, it is unclear which of the local disposal facilities will be impacted by Marcellus Shale waste product disposal.

5.7.8 Illegal Dumping

According to *Keep Pennsylvania Beautiful* there are some possible solutions to illegal dumping, including:

- Organize a Cleanup – An effective way to combat littering and illegal dumping, help to build ownership, restore community pride, and send a message that dumping will no longer be tolerated.
- Organize a special collection event - Special one-day collection events are very effective when routinely offered, such as each spring or fall as a community cleanup day, but are also successful when offered as community resources permit. They target hard-to-dispose-of materials such as tires, appliances, scrap metal, computers, electronics, and household hazardous waste, commonly found in illegal dumps.
- Physical deterrents - The placing of guard rails or mounds of dirt at pull-off areas, as well as the planting of trees, can help provide a barrier that will limit accessibility to a site for future dumping.
- Site monitoring and maintenance - It is important to monitor a site after an area has been cleaned in order to watch for subsequent dumping or littering, to keep the site clean, and to report any incriminating evidence to the proper enforcement agency. Keeping the site clean makes it easier to spot new trash and discourages subsequent dumping, since trash attracts trash.
- Enforcement, with site monitor support - effectively decreases the incidents of dumping and littering. When word gets out that dumping activity will not be tolerated and violators will be caught and prosecuted, dumping decreases.

- Community education - Intentional illegal dumping and littering are social problems that require a shift in attitudes and practices. Education is the key to changing values, habits, and attitudes. Education programs should be tailored to inform the community and can take many forms, such as, school/community presentations, press releases, radio and newspaper ads, and publications.
- Enforcement of existing laws - Any improper disposal of trash is illegal and violators can be prosecuted. Numerous Pennsylvania agencies enforce laws addressing improper disposal of trash. The Pennsylvania General Assembly creates and enacts our littering and dumping laws. County and municipal governments create and enact ordinances that are specific within their local boundaries.

Landfills were asked, as part of the SOI for long-term disposal capacity, to donate some discounted or free landfill capacity each year to the County's open dumping cleanup efforts.

5.7.9 Open Burning

Open burning of wastes is an emotionally-charged issue that elicits strong responses both in favor of and in opposition to the right to burn waste. Many reasons can be given to stop the open burning of waste, including the potential damage to health and the loss of recyclable materials. PADEP requires anti-burning ordinances, at least for recyclables, in mandated communities and in communities that are receiving Section 902 and 904 grant funding from PADEP for recycling programs. With that said, burn ban ordinances are a local issue that each municipality needs to determine whether or not to implement as a local ordinance. To aid the process, this Plan offers several versions of anti-burn ordinances from other communities that have instituted them. These sample ordinances are included in Appendix H. Additionally, this Appendix includes sample educational materials on open burning, which counties and municipalities can use to educate their residents about the harms and risks associated with this practice.

5.7.10 Expansion of County Recycling Programs

The information presented in this Plan demonstrates that there is still considerable room for improvement in recycling. Although all of these ideas may not work in each municipality, there needs to be a greater emphasis on cooperation, with an analysis of what can realistically be achieved. With decreased grant money to spend on programs, each municipality and the County Department of Solid Waste Management must decide what its achievable goals are, and take incremental steps toward realizing the desired end result.

The Plan recommends the following options for expanding the recycling program.

- Expand Education Programs via the County Department of Solid Waste Management Web Site – There is a varying level of recycling education and outreach in the area. A website with consistent information for all municipalities in the County would be beneficial. This would not replace recycling information already publicized on various municipal websites, but it would be most useful for municipalities with smaller budgets or less staff, and to standardize information. The County website should contain links to any existing websites for more specific local information. It would be especially useful if new materials are added, to publicize special collections, and to explain various recycling methods. It should explain new County or State/Federal programs such as electronics and pharmaceutical collections, and new State and Federal mandates. It would highlight private sector recycling initiatives for items such as food waste, fluorescent bulbs, clothing, plastic bags, furniture, and other drop off items, difficult to recycle items, or new recycling initiatives.
- Expand Education Programs in Schools – This could include initiatives wherein local landfills are encouraged to provide tours to local school groups, direct outreach programs for Earth Day activities, County recycling contests, etc., with the focus on children between Elementary and High School age.
- Expand Education Programs for Business and Industry – As a significant source of MSW generation, local Business and Industry facilities could benefit directly through enhanced education. This includes not only the provision of educational information regarding proper waste management handling and

disposal, but also the initiation of a “business-to-business” communication opportunity so that “waste” generators could find potential demand for those materials.

- Single/Dual-Stream Recycling – These two options should be implemented where feasible, with the cooperation of the local private haulers. There are many successful recycling programs in the County, most accepting source-separated materials, and those should continue in their current form. Where processing facilities make this feasible, single and/or dual-stream recycling should be encouraged as an option in rural areas or in areas where the current curbside collection is limited to a few items. Education must be consistent to maintain high quality of materials.
- Expand Drop-off Hours – It is generally less expensive to expand the hours of existing drop-off collection sites rather than to add new sites. The County and individual municipalities should explore the option of increased hours. They should also explore the idea of instituting a fee at drop-off collection points for those municipal sites which will not currently accept outside customers. Again, this option might be less costly than opening new drop-off sites, although additional drop-off sites for underserved areas are also recommended.
- Increase educational services to commercial accounts, large and small businesses, and schools and institutions.
- Contact large businesses such as Giant Eagle, WalMart, Lowe’s, Home Depot and others concerning their interest in sponsoring recycling events, or in special collections.
- Provide special collections for HHW and other hard-to-dispose-of materials, although funding sources for this effort would need to be identified.
- Provide education to residents regarding the health hazards that are caused by open burning.
- Educate the population regarding how to discard household hazardous wastes by listing resources for disposal of these wastes.
- Investigate expanding the types of materials collected curbside or at a local drop-off site.
- Select material commodities that are more cost-effective to collect.

5.7.11 Promotion of Recycling within the Municipality

For commercial recycling, currently proposed legislation, if enacted, may require local governments to take a more proactive approach to this effort. Local efforts will include enhanced education of residents and businesses, and possible increases in drop-off sites, along with a reevaluation of the types of recyclable materials to be included in the programs. However, some of the local markets are also becoming more proactive in recycling, with the potential to have very positive recycling results, and a subsequent reduction in commercial waste disposal.

As noted above, the majority of the municipalities in the County utilize drop-off sites for recycling, especially in the more rural areas. This system has been quite successful and results in relatively clean recyclables, although the volume of material would probably increase if curbside recycling was instituted in some locations.

With regard to increasing residential recycling, local governments, as well as private hauling companies, may consider the implementation of Pay-As-You-Throw (PAYT) programs. These programs charge residents for waste removal services based on the quantity of material discarded, thus encouraging residents to recycle more. Some programs have a set rate per container, while others use a combination of a fixed fee plus a variable fee based on service. This type of program could be implemented by municipalities that are considering a switch to a single contract for municipal waste collection, although it appears unlikely that this will be done in large numbers across the County, given the preference for private subscription collections. However, implementation of this system by the private haulers has the potential to be very effective.

Currently over 200 municipalities in Pennsylvania have instituted these types of programs. The benefits of PAYT programs include:

- Fairness — each household pays based on its use of solid waste services
- Increased Recycling — residents have a financial incentive to recycle
- Waste Reduction — consumers become more aware that they can purchase recyclable packaging, avoid excessive packaging and consider alternatives to disposable products.

5.7.12 Recycling Revenues and Fees

From the County perspective, revenue associated with recycling is dependent on how recycling is conducted, and by whom. The value of recycled materials is difficult to estimate, given that: the commodity price changes continuously, some recyclable materials have little or no value, and that the actual revenue is collected by private, municipal or County entities, depending on location. However, in order to show the magnitude of recycling value in the County, the individual recycling commodity tonnages for typical “Act 101 recyclable materials” collected in the County were obtained for 2010, and using average prices per commodity type, a total value was computed. Based on these values, the total recycling tonnage for typical “Act 101 recyclable materials” collected in 2010 was estimated at roughly 22,249 tons of material. The average commodity price for all recycling streams was approximately \$108/ton, resulting in an estimated 2010 recycling value of \$2.4 million. (See Table B.4 in Appendix B.)

Note that these values represent combined residential and commercial recycling, but excludes the items discussed in Sections 3.1 and 4.1, which are reported by commercial/industrial processing facilities. Also note that some commodities may be recycled by the County, individual municipalities, or the source generator, so the substantial revenue generated by some commodities (such as cardboard) may not translate to Public Revenue. (In the example shown in Table B.4, cardboard accounted for slightly more than ½ of the total revenue generated. However, 8,488 of the 8,708 tons were collected commercially, so only \$31,900 of the \$1,262,600 in revenue went to Public entities.)

As noted above, this revenue was distributed across multiple private and public entities, and the costs associated with the collection and processing of the recycled materials is not readily available. However, a portion of this revenue contributed to the sustainability of the recycling programs in the County.

The estimated avoided cost savings of not landfilling 22,249 tons of recyclables from the County in 2010 is estimated at roughly \$780,000 to \$890,000, based on an average tipping fee of between \$35 and \$40 for landfills that have accepted waste from the County. These disposal cost savings most often accrue to the haulers that collect and deliver their wastes to landfills, and if passed down to their customers, to individual homeowners and businesses. The avoided cost savings accruing to counties or their recycling programs are minimal if any, due to the fact that the counties do not generally collect or dispose of municipal waste in the County.

(Note that in Section 4.5 an avoided cost estimate was completed for a total of 27,187 recycled tons in 2010. The difference between this value and that used above is that the tonnages used in Section 5.7.12 were based solely on the “Act 101 Recyclables” (those which typically generate revenue), versus those in Section 4.5 that reflected the total tons of recycled materials. Both values reflect avoided costs, although the former are more important when considering revenue.

To support the expansion of current recycling programs in the County, the Solicitation of Interest document was expanded to seek both solid waste disposal capacity, and support for methods to sustain an enhanced Integrated Waste and Recyclables Management Program for the County. Projected costs for the individual Integrated Waste and Recycling Program items were generated and were included in the SOI.

Beaver County could use additional revenue to cover operating costs, and to increase programs. Support from outside sources with the stabilization, enhancement and expansion of the current recycling programs would assist the County Department of Solid Waste Management in many ways, including

- Increased special collection
- Increased hours and materials accepted at drop-off locations
- The possibility of additional, permanent drop-off sites
- Funding for County education outreach programs such as websites and brochures
- Provision of funding for municipal programs which were reduced or eliminated as a result of past revenue shortfalls, such as the elimination of the administrative fee.

Within the Solicitation of Interest (SOI) for Municipal Waste Processing/ Disposal Capacity, a provision was included requesting that Respondents include consideration for support for the County’s Integrated Waste and Recyclables Management Program enhancements. It was noted in the SOI that support of the Program is an optional component of the waste services contract ultimately executed by a successful Respondent; and failure to provide such requested program support in the ultimate waste services contract will not be a sole basis for excluding a facility from eligibility to become a Designated Facility in the County Plan.

Future sustainability of the various programs established in Beaver County will be a function of multiple funding sources, including: revenues from recycling; voluntary fees collected from the SOI respondents and others; municipal and county contributions to the programs as part of the annual budget; and available local, State and Federal grants.

In the event that these sources of funding are not sufficient to maintain the current level of solid waste management services (including recycling and special waste collection programs, as well as education and outreach programs), some of the current County and municipal activities may have to be suspended or reduced in scope. There are no current plans to eliminate services within the County, but it is understood that a significant change to the current programs could result in the need for a substantial revision to the County Solid Waste Management Plan.

5.8 SECURING WASTE DISPOSAL CAPACITY FOR THE COUNTY FOR THE NEXT TEN YEARS

Several of the landfills that have provided disposal capacity to Beaver County over the past 10 years would technically be able to provide more than 100 percent of the needed MSW disposal capacity for the entire County. Assuming that all 9 of the facilities that have recently accepted waste continue to show interest in signing agreements to be included in the Plan Update, it appears that providing capacity assurance for the next 10 years will not be a problem.

To expand on this capacity assurance, a Solicitation of Interest (SOI) was issued after the draft Plan Update was accepted by the County Commissioners (and prior to final approval by the PADEP), to pre-qualify interested disposal sites that meet minimum submission criteria, and to identify qualified facilities from the SOI process as designated facilities in the Plan. Upon receipt of the SOI responses, a list of responding facilities was generated and presented to the County Department of Solid Waste Management. A designated facility, once a contract is executed, will be permitted to receive municipal wastes generated from the County over the next ten years.

The submissions in response to the SOI included contract maximum tipping fees that the disposal facility is allowed to charge for disposal of various wastes over the next ten years. Haulers will be free to negotiate tipping fees under these ceiling rates at their discretion on a case-by-case basis.

Within the PADEP regulations, §272.227(c)(3) requires that each facility be assessed based on environmental, energy, life cycle costs, and costs of transportation to each facility considered, as well as the economic advantages and disadvantages of the proposed facility or program and the alternatives considered. However, for a “Menu Type Plan”, the County has little control over which of the designated facilities is selected for

disposal, since the economic assessment is performed by the hauler, based on his specific costs. As such, these issues will be considered, but ultimately, the hauler will make the decision as to disposal location. In the event that a Public Transfer Station is considered in the future, these issues will be considered as part of the assessment process.

Once the Plan is approved by the PADEP, the County then will have one year in which to execute disposal agreements with the pre-qualified disposal sites, although the current intent is to have disposal agreements in place by April 1, 2015. Proposed Disposal Capacity Agreement language was prepared and issued with the SOI. Negotiations with individual landfill companies were initiated by the entity identified to implement the Beaver County Plan, to assure that adequate permitted disposal capacity is available for the County's municipal waste disposal over the next ten years.

5.9 DESIGNATED WASTE DISPOSAL SITES

A total of eight disposal facilities submitted responses to the SOI and agreed to participate in negotiations with the County to be qualified as designated sites. Each of the SOI submittals was reviewed and a summary table was prepared identifying the specific responses. (See Tables 1 and 2 in Appendix D.) Meetings with each of the disposal facility respondents were arranged in June of 2014, and the negotiation process is still in progress. Once negotiations are complete, disposal facilities that have completed a Disposal Agreement will be included in the Plan Update, and municipal waste generated within the County may be disposed of at any of the pre-qualified, designated disposal facilities.

During the 1-year Implementation Period, the names and locations of the facilities that have been designated as part of the Plan Update will be included in Appendix D.

5.10 DESIGNATED WASTE TRANSFER STATIONS

It is acknowledged that transfer stations, both within and outside of Beaver County, currently accept and transfer waste to disposal sites. As part of the Solicitation of Interest (SOI), any transfer station proposing to accept and transfer municipal waste from the County were asked to enter an agreement with the County, committing to: 1) deliver County waste only to Designated Facilities listed in the County Plan, and further, 2) agreeing to accurately track and report (to the disposal site that waste is delivered to, and to the County) the quantities and types of municipal waste accepted and transferred from the County.

A draft form of Transfer Station Agreement was included with the SOI.

Letters of response were received from 2 Waste Transfer Stations, and are included in Appendix D.

5.11 INTEGRATED WASTE AND RECYCLING PROGRAM SUSTAINABILITY NEEDS

As discussed in Section 5.7 of this Plan, Beaver County has developed an Integrated Waste and Recycling Management Program (IWRMP) to meet the needs of the residents and businesses located within the County. In order for the County to maintain and expand this Program, a Sustainability plan has been initiated, and this will require that the County Department of Solid Waste Management work with the generators of waste materials, as well as the haulers, recyclers and disposal facilities that deal with the generated waste.

With this in mind, a series of IWRMP Sustainability Needs was explored as part of the Solicitation of Interest (SOI) for municipal waste disposal capacity. These "sustainability needs" included items associated with current programs, as well as enhancement of these and new programs, with the identification of needs based on discussions with the County Department of Solid Waste Management, information and recommendations

collected from the Solid Waste Advisory Committee (SWAC), and from an assessment of the current issues and concerns within the County.

Some of the IWRMP enhancements that are recommended herein include:

- Enhance Existing Curbside Recycling Collection Programs
- Enhance Existing Drop-Off Recycling Sites/Programs
- Expand e-Waste Collection Programs
- Expand Household Hazardous Waste (HHW) Collection Events
- Expand Special Event/ Materials Collections
- Support Education and Waste Minimization
- Support New Recyclables Drop-Off Facilities
- Support Expansion of Recyclables Bidding/ Data Collection Services
- Support Illegal Dump Cleanups in the County
- Implement Program Standardization and Sustainability Management
- Increase Organics Collection and Composting
- Other Targeted Sustainability Program Support

The County sees a need to maintain and expand solid waste services to residents, and is seeking ideas from SOI respondents as to how to best accomplish that at minimal cost to the County. With this in mind, the SOI was prepared to require respondents to “*consider and share with the County Department of Solid Waste Management ideas on the manner in which they may be able to provide support for an enhanced and sustainable integrated waste and recyclables management program serving Beaver County, at least for the service area for which the Respondent’s disposal site is also providing disposal services.*” The SOI then goes on to ask if the respondent will indicate whether and how it might support the IWRMP and to enter into good faith negotiations with the Department to identify ways the respondent may support the system. The SOI indicates that “*While provision of these services is an optional component of this SOI, the County strongly recommends and requests Respondents’ support for provision of these services.*”

5.12 ADDITION OF LANDFILLS AND OTHER FACILITIES TO THE PLAN

It is possible that over the 10-year planning period, generators or collectors of municipal waste in the County may wish to utilize a landfill that is not approved for acceptance of that waste. In addition, it is recommended that the County Department of Solid Waste Management annually review the list of Designated Disposal Facilities to determine whether the needs of the County and municipalities are being met, and that adequate disposal capacity is available for the remaining life of the Plan. In order to facilitate the addition of a landfill or other disposal site to the Plan, the following procedure has been established as part of this plan revision. This same form could be used in the event that a waste-to-energy facility was proposed in the region. If a PADEP-licensed hauler, or a municipality or a business desires to use a facility for disposing of municipal waste other than those currently included in this Plan, the following procedure is to be used:

1. A PADEP-licensed hauler, a municipality or a business must petition the County Department of Solid Waste Management (Department) using the one page form (see *Petition Form to Add a Disposal Facility to the Plan* in Appendix E), to propose that a specific facility be added to the Plan.
2. Within 10 working days of receipt of the petition form, the Department will forward a Solicitation of Interest (SOI) package to the facility being requested for inclusion in the Plan.
3. The SOI will require the same information as was required of those facilities that responded to the original SOI in order to assure fairness in the process.
4. Upon receipt of the completed SOI from the facility in question, the Department will review and respond to the information submitted within 30 working days.

5. If the request for inclusion in the Plan is denied, the Department will notify by letter the facility and the requesting hauler, municipality or business of the reason(s) for that denial.
6. If information in the completed SOI is approved as being complete and accurate, the Department will initiate negotiations with the disposal facility. In the event that the negotiated terms are acceptable to both the Department and the disposal facility, the Department will issue a letter to the facility and to the requesting hauler, municipality or business that the facility is formally designated in the Plan for disposal of municipal waste generated in the County.
7. At the same time, the Department will notify by letter all County municipalities and PADEP that the disposal facility has been added to the Plan.
8. If required by PADEP, the Plan will be updated to reflect inclusion of this new designated facility. All costs associated with notification of the municipalities involved, as well as to update the Plan will be reimbursed by the disposal facility requesting to be added to the Plan.

5.13 IMPLEMENTATION SCHEDULE

The above-referenced section of Act 101 requires that Beaver County submit to PADEP, within one year after PADEP approval of the Plan or Plan revision, copies of executed ordinances, contracts or other requirements to implement its approved Plan, that will be used to insure sufficient available capacity to properly dispose or process municipal waste that is expected to be generated within the County for the next 10 years.

Activities included in this category are:

- Prepare and Implement County Solid Waste Management Ordinance.
- Execute final contracts to assure adequate processing/ disposal capacity for Beaver County.
- Generate support for the Integrated Waste and Recyclables Management Program in the County.
- Assist Mandated communities with Implementation.
- Develop and disseminate public education materials dealing with waste minimization, HHW and infectious wastes generated in the home.
- Register haulers and transfer stations.

Scheduled dates for completion of the aforementioned actions are:

1. County Solid Waste Ordinance
 - 4/30/2013 – Draft Ordinance submitted to DEP
 - 5/6/2014 – Final version of Ordinance submitted to SWAC/Municipalities
 - 3/11/2016 – Ordinance Adopted by County Commissioners
2. Disposal Capacity Agreements with Processing/ Disposal Facilities
 - 11/7/2013 – Advertised Release of Solicitation of Interest for Processing/ Disposal Capacity Agreements
 - 5/23/2014 – Receipt of Responses to SOI
 - 6/02/2014 – Presentation of final Consultant comments/ recommendations on Submittals to County Department of Solid Waste Management
 - 6/24/2014 – Initial Negotiation meetings with SOI respondents
 - 11/2/2015 - Follow-up Negotiation meetings with SOI respondents
 - 12/7/2015 – Distribution of draft contracts to tentatively Designated Facilities
 - 1/4/2016 – Return of signed contracts to the County
 - 2/10/2016 – Obtain County signatures and submit contracts to PADEP

(Note that the PADEP allows a maximum of 1 year for final implementation of the Plan after final “Approval”)

3. Assist Mandated communities

7/01/2015 – Enforcement of their mandated recycling ordinances

7/01/2015 – Educating residents and the commercial, municipal and institutional establishments

7/01/2015 – Continue cooperative efforts to compost leaf waste and bring collections up to Act 101 standards

4. Public Education Materials

7/01/2015 – Update the County Department of Solid Waste Management web pages (with hyperlinks to the individual municipal sites), as needed.

7/01/2015 – Develop other various forms of public awareness/outreach including brochures and flyers to be distributed to residential and commercial populations

6. LOCATION (per 25 Pa. Code. § 272.228)

6.1 RECYCLING FACILITIES



There are two primary County-owned recycling facilities in Beaver County that accept the majority of materials. In addition, there are several smaller municipal facilities which accept miscellaneous specialty commodities. The following discusses the two larger facilities.

Beaver County Recycling Center - The Center is located at Brady's Run Park in Brighton Township. It is operated under continuous electronic surveillance to discourage illegal dumping and scavenging of recyclables, and is manually operated twice per week (Tuesday & Thursday from 9AM to 4PM) and on the 1st and 3rd Saturday of each month. The Center accepts a wide variety of items, as detailed in Section 4.3, and also as shown on the County Department of Waste Management website at: http://www.beavercountyrecycling.com/recycling_ctr.html

Beaver County Yard Waste / Composting Facility – The Compost Facility is located on an unnamed road roughly 1.5 miles southeast of Doyle Road, in Brighton Township. The Facility operates currently on a Permit-by-Rule, but the County is in the process of seeking a permit that would allow for the site to expand and accept a wider variety of organic materials. The site is not manned continuously, so residents are asked to contact the Beaver County Dept of Solid Waste Management for instructions regarding the types of material that can be accepted.

A series of publically- and privately-operated recycling drop-off facilities are located throughout the County, at locations discussed in Section 4.2.

6.2 SOLID WASTE DISPOSAL FACILITIES

Detailed discussions of the disposal facilities that accepted Beaver County waste material for disposal between 2001 and 2011 are included in Section 2.1, and these facilities are geographically located on Exhibit 1.

As discussed in Section 5.8-5.10, a total of eight disposal facilities submitted responses to the SOI and agreed to participate in negotiations with the County to be qualified as designated sites. Each of the SOI submittals was reviewed and a summary table was prepared identifying the specific responses. (See Tables 1 and 2 in Appendix D.) Meetings with each of the disposal facility respondents were arranged in June of 2014, and the negotiation process is still in progress. Once negotiations are complete, disposal facilities that have completed a Disposal Agreement will be included in the Plan Update, and municipal waste generated within the County may be disposed of at any of the pre-qualified, designated disposal facilities.

During the 1-year Implementation Period, the names and locations of the facilities that have been designated as part of the Plan Update will be included in Appendix D.

7. IMPLEMENTING ENTITY IDENTIFICATION (per 25 Pa. Code. § 272.229)

Implementing responsibilities include those activities delineated in previous Plans, those which have been undertaken since those Plans were approved, and those which should be undertaken in the future.

7.1 BEAVER COUNTY SOLID WASTE ADVISORY COMMITTEE

During development of the Plan Update, the role of the SWAC members was to provide oversight and advice for the development of the Plan, and to make suggestions and propose changes that it felt were appropriate. Throughout the Plan development process, copies of draft versions of the Plan chapters were submitted via email to SWAC members and the individual chapters were discussed during the SWAC meetings. All comments presented by SWAC members were addressed in the final version of the Plan.

If, during the implementation period, substantial changes to the approach or schedule are considered necessary, further participation by the SWAC may be considered. Otherwise, the SWAC will be disbanded following the final committee meeting.

7.2 COUNTY GOVERNMENT

The **Beaver County Department of Solid Waste Management** is the entity selected by the County Commissioners to implement the County's Municipal Waste Management Plan. This decision was first initiated during the development of the 2004 Plan, and continues through the 2014 Plan Update. The Department is responsible for:

- Monitoring municipal solid waste collection, storage, transportation and disposal services.
- Documenting private solid waste collection, storage, transportation and disposal services that have been approved by Municipalities or as part of this Plan.
- Aiding and assisting the Commonwealth in the application and enforcement of rules and regulations pertaining to solid waste management.
- Assisting communities in adopting and issuing local rules and regulations.
- Informing the County and municipalities about changes in federal and state laws, rules and regulations that may affect solid waste management.
- Operating the County recycling and composting facilities.
- Assisting the municipalities in the operation of their recycling facilities.
- Providing technical assistance to commercial, institutional and industrial facilities in implementing recycling programs.
- Operating special projects sponsored by the County.
- Planning and implementing County-wide education programs to the public about recycling and composting, and to provide information about the range of recycling opportunities through the County.
- Collecting and evaluating data on municipal and County recycling and waste generation.
- Collecting and evaluating data on commercial, institutional and industrial recycling and waste generation.
- Preparing recycling and waste generation reports to the PADEP.
- Applying for grants to carry out County-wide recycling and composting programs, administering grants received and reporting on results.

7.3 LOCAL GOVERNMENTS

Individual municipalities within Beaver County will have a variety of responsibilities, depending on whether they are designated under Act 101 as a Mandated Municipality, including the following:

- Implement mandates specified in Act 101 and the Beaver County Plan.
- Stipulate in their bid specifications for collection services that materials designated by the municipality for inclusion in the municipal recycling program not be collected and disposed with the municipal waste.
- Stipulate in their bid specifications for collection services that solid waste materials collected will only be taken to processing/disposal facilities that have current Disposal Capacity Agreements with Beaver County in the County Solid Waste Management Plan.
- Enforce local mandates, ordinances and bid specifications to assure compliance with the intent of the County Plan.
- Prepare and submit reports to the County as required by this Plan and Act 101.
- Develop and distribute recycling and waste management educational materials.
- Promote the purchase of materials with recycled content.
- Promote ‘green’ shopping habits and waste minimization.
- Foster the improvement of recycling opportunities for commercial, institutional, and multi-family facilities.

A copy of a Model Municipal Solid Waste Ordinance is included in Appendix E, which: provides definitions of solid waste items, identifies prohibited activities, discusses standards for storage/collection/transportation of solid waste, and establishes authorization for the municipality to fund the waste collection program.

The burning of materials that are required to be recycled by local ordinances (created under Section 1501 of Act 101) is unlawful since these materials must be recycled rather than burned. If local ordinances do not prohibit it, open burning of refuse and yard waste is permitted in non-mandated communities, but does not include demolition waste, insulation, shingles, treated wood, paint, painted or stained objects or furniture, tires, mattresses, box springs, metal, insulating coating on wire, television sets and appliances, automobiles, automotive parts, batteries, PVC products, waste oil and other petroleum products. However, the burning of solid waste is illegal under Act 97, the Solid Waste Management Act. Section 601(3) of the Solid Waste Management Act, 35 P.S. § 6018.610(3), provides that it shall be unlawful for any person or municipality to burn solid wastes without a permit from the Department. The burning of recyclables is unlawful under Section 1501 of Act 101. From a practical standpoint, the PADEP has typically relied on local municipalities to enforce these regulations, resulting in the need for local ordinances to define “allowable” practices within each municipality.

In areas of relatively high population density, no-burning ordinances have not only resulted in cleaner air, but have also resulted in greater recycling rates of paper products. Examples of four (4) different types of burning ordinances have been included in Appendix E as model language. These include:

- A limited burning ordinance (Exeter Twp, Berks County)
- A No Burning of Recyclable Materials Ordinance (Brady Twp, Lycoming County)
- A Complete No Burning Ordinance (South Williamsport, Lycoming County)
- A PADEP Model Air Pollution Control Ordinance

These four ordinances were recommended by the PADEP for use in previous county plans as models, based on the previously reviewed and approved language.

PADEP requires anti-burning ordinances, at least for recyclables, in Mandated communities and in communities that receive Sections 902 and 904 grant funding from PADEP for recycling activities and programs. The specific section of Act 101 which discusses burning of recyclables is located at the following website: <http://www.dep.state.pa.us/dep/deputate/airwaste/wm/recycle/Coordinators/References/leaf.htm>

It is recommended that municipalities with recycling programs, whether mandated or not, consider adoption of an ordinance to control the burning of recyclable materials.

7.4 PRIVATE HAULERS

Private haulers are a critical component of the Beaver County waste collection system, and some haulers are also currently involved with recycling, or would like the opportunity to become more directly involved in municipal recycling efforts.

Since many of the recyclables processing facilities in the Southwestern PA Region require source-separated materials, private haulers who would like to participate in collection and hauling of recyclables for the first time may be required to purchase new equipment or modify current trucks to properly handle the materials without contamination or re-mixing of separated commodities. The availability of single-stream (or dual-stream) recyclables-processing facilities within or outside of the County may provide an additional alternative for private haulers, and is currently in use by some local haulers.

A more detailed discussion of collection practices for municipal waste and recyclables is included in Section 5.7.1. A Model Ordinance for contracted solid waste management collection services (in lieu of collection by private subscription) is included in Appendix E.

7.5 BUSINESSES, INDUSTRY, SCHOOLS AND PRIVATE CITIZENS

As the primary generators of municipal solid waste and recyclables, businesses, industries, schools and private citizens have a responsibility to participate in the general goals of reducing the total volume of solid waste created, ensuring the proper disposal of generated waste products, and increasing the recycling of appropriate commodities.

In order to establish a partnership between these groups (who generate the MSW) and the County and municipal government agencies (who plan for the proper processing and disposal of the generated MSW), it is critical that the Beaver County Department of Solid Waste Management have the means to publicize the County Solid Waste Management Plan, and to provide sufficient educational materials to clarify the issues and recommended solutions.

A more extensive discussion of regional municipal waste management planning issues is included in Sections 3.1 and 4.1, and the recommended solutions are discussed in more detail in Chapter 5.7.

8. PUBLIC FUNCTION (per 25 Pa. Code. § 272.230)

The PADEP Solid Waste Regulations require that Counties should assess whether it is in the public interest for municipal waste processing or disposal to be a public function, or if waste management should be handled primarily by the private sector.

As defined in Chapters 4 and 5, Beaver County has a combination of Public and Private facilities/operators to manage waste processing and disposal. The process has developed into a rather complex Public/Private cooperative effort, and it was determined that the current system should be encouraged, with efficiencies added where possible.

The following is a description of the current Public programs.

8.1 COUNTY LANDFILLS

As discussed in Chapters 1.0 and 3.0, there are no publically-owned landfills within Beaver County. Given the availability of disposal capacity near the County (in Pennsylvania as well as locally in Ohio and West Virginia), the creation or purchase of a County landfill is not recommended.

8.2 COUNTY-SPONSORED RECYCLING PROGRAMS

As a complement to municipal recycling programs, Beaver County has sponsored a series of activities aimed at collecting and recycling a variety of materials (organics for composting, periodic household hazardous waste collection, etc.). There are also Recycling Drop-off centers located in numerous municipalities, which are supported by several Private recycling facilities and transfer stations. Details of the specific programs are located in Section 4.3.

8.3 LEAF AND YARD WASTE (AND POSSIBLE FUTURE FOOD WASTE) COMPOSTING



All mandated municipalities in Beaver County fulfill Act 101 requirements by collecting leaves and yard waste for processing at the County Yard Waste/ Composting Facility, or at other privately-operated facilities. However, there is still room for some growth and improvement in the County in both organics collection and composting. This can be accomplished through; the expansion of collection schedules and items accepted in some mandated municipalities, an increase in the number of composting programs, the acceptance of more types of material, and for increased hours at the existing composting site and organic drop-offs. A description of the County facility is located in Section 4.3.

There is also the potential for local farms in close proximity to residential areas to accept more items for composting, such as newspaper and yard waste.

Possible expansion/enhancement of the existing leaf and yard waste (and possibly food waste) composting activities is an area that is recommended for consideration by the County Department of Solid Waste Management. Expansion could be encouraged through a combination of public education and the provision of various collection methods to increase diversion rates.

8.4 MARKETING

The Beaver County Department of Solid Waste Management mails announcements and educational information to its municipalities on a variety of topics, and posts relevant information on its website. In turn, it is the responsibility of the municipalities to provide education to their residents and businesses on these issues. The Department and several of the local private industries have websites which include information on composting, household hazardous waste collections, recycling facts, buying recycled products, municipal recycling programs and services available for businesses, mailing lists, and press releases.

Beaver County Waste Management Services: <http://www.beavercountyrecycling.com/>

Several of the local private and governmental agencies that provide recycling services to the County have websites with links located here: http://www.beavercountyrecycling.com/useful_links.html

In addition, residents should check with local retail stores to determine what items they will accept for recycling, such as plastic bags, oil and antifreeze, electronics, rechargeable batteries, printer ink cartridges, and fluorescent bulbs. Many scrap yards located in the area accept metal items of all types; some scrap yards and service stations accept lead acid batteries and used motor oil.

8.5 HOUSEHOLD HAZARDOUS WASTES

A discussion of Household Hazardous Waste collections is included in Section 5.7.5, along with a recommendation for additional periodic HHW collections.

Residents should also check with large retail stores and chains such as WalMart, Home Depot, Lowe's, Staples, Best Buy, and Radio Shack for HHW recycling programs that may be available in local areas. Many items, such as used motor oil, may also be recycled at some quick oil change businesses (i.e., Pep Boys, Jiffy Lube), and some local service stations. Market conditions dictate what items may be accepted, so residents should check new listings throughout the year.

Alternative methods for disposal of expired prescription medications are discussed in Section 5.7.6.

8.6 NEW PADEP INITIATIVES

PADEP has recently created a Recycling Markets Center (RMC) – Organized as a non-profit 501c(3) corporation, the Pennsylvania Recycling Markets Center is a leader in developing and expanding recycling markets in Pennsylvania. In a competitive global marketplace, the RMC is the keystone clearinghouse of environmental, economic development, and manufacturing resources for end use support of recycled commodities and products. The RMC is headquartered at Penn State Harrisburg with satellite offices near Pittsburgh. The Mission of the RMC is to expand and develop more secure and robust markets for recovered (recycled) materials by helping to overcome market barriers and inefficiencies.

RMC recently partnered with Weis Markets of Sunbury PA, to develop new markets for the recyclable materials generated by the 164 stores, distribution center and manufacturing facilities. Weis Markets is the first food retailer to partner with the RMC. In 2009 Weis Markets recycled 45.8 million pounds of cardboard and 1.6 million pounds of plastic bags. In 2010, Weis began a new recycling program for its waxed cardboard boxes and partnered with Envirollog to compress this waste into environmentally friendly fireplace logs, which are currently sold in Weis Markets stores.

In 2009, RMC also announced that it had been instrumental in the launching of a new enterprise, Kuusakoski Philadelphia, LLC. At full production, the new 10 million dollar, state-of-the-art electronics recycling facility

will create approximately 30 skilled, technical jobs while domestically processing a minimum of 15,000 tons of recycled consumer electronics annually.

It was also instrumental in streamlining the coordination of necessary activities for PC Parts, Inc (PC Surplus Recycling) to acquire an electronics recycling General Permit from the PADEP. In rapidly assessing the needs of a Central Pennsylvania based business that refurbishes and re-manufactures computer and printer parts, the RMC successfully streamlined coordination of necessary activities for PC Parts, Inc., (PC Surplus Recycling) to acquire an electronics recycling General Permit.

PADEP is also considering a program intended to address the lack of recycling of materials currently being discarded from building construction sites. A series of meetings will be held with contractors to discuss the means by which many of the materials now being discarded can be put into a recycling stream.

9. IMPLEMENTING DOCUMENTS (per 25 Pa. Code § 272.231)

9.1 COUNTY ORDINANCES

County Ordinance #082092-SWM, prepared in 2002 as part of the 2004 Plan Update, was modified to reflect current regulations and submitted to the County Solicitor and Commissioners for comment. The model will be reviewed, edited and the final version will be signed by the County Commissioners during the one-year implementation period, and incorporated as part of the Plan Update. A copy of the final version will be contained in Appendix E.

9.2 OTHER IMPLEMENTING DOCUMENTS

The County Commissioners created the Beaver County Department of Solid Waste Management and designated them as the implementing entity in its Solid Waste Management Ordinance #082092-SWM, effective August 1, 1992. The 2004 Plan Update reinforced the decision to utilize the Department for Plan Implementation, and the 2014 Plan concurs with this decision.

Beyond the new County Ordinance, other Implementing documents include the County Resolution to adopt the 2014 Municipal Solid Waste Management Plan Update (Appendix G), and revised rules for registering haulers and transfer stations (Appendix E).

In addition, a copy of the SOI is included in Appendix D, and, following execution of the Agreements, the Disposal Site Capacity and Transfer Station Agreements will be added to Appendix D.

The following documents, focused on collection and processing of yard waste and other organics, will also be updated as part of the Plan Update Implementing Documents:

- *Beaver County Yard Waste Program for Municipalities*
- *Beaver County Yard Waste Program for Small Volume Contractors*
- *Beaver County Yard Waste Program for Large Volume Contractors*

These documents were developed previously and will require modification to reflect the current status of the yard waste collection and disposal program, as well as to assure compliance and consistency with the Plan Update.

9.3 DISPOSAL CAPACITY AGREEMENT CONTRACTS

The disposal capacity agreements will be executed between the designated disposal facilities and the implementing entity for this County Plan, as discussed in Section 5.8 and 5.9. A copy of the model contract form is contained in Appendix D. This contract accounts for current legislation, as well as the application of an Integrated Waste and Recyclables Management Program (IWRMP).

As in the current contracts, temporary alternate sites will be permitted if emergency or other situations beyond the Operators control necessitate the temporary suspension of the handling of solid waste at the disposal facility and the Operator wishes to temporarily use another disposal site(s) owned by the Operator but not specifically designated in the Plan.

The contracts are in accordance with the Ordinances and Implementing Documents, as described in Chapter 9.

10. ORDERLY EXTENSION (per 25 Pa. Code. § 272.232)

This Beaver County Municipal Solid Waste Management Plan was completed in a manner that abides by the requirements of the PADEP Solid Waste Regulations and the intent of Act 101, while also maintaining consistency with the specific needs of the County. As a result of coordination with local, county and State agencies, the Plan is also consistent with existing State, regional, and local plans affecting the development, use and protection of air, waste, land or other natural resources, including municipal waste management plans approved by the Department. The Plan also takes into consideration local and County planning, zoning, population estimates, engineering and economics. Where local and County ordinances appeared to be lacking with respect to municipal solid waste issues, recommendations and examples have been provided for consideration by the appropriate agencies.

In addition to disposal facilities located within the Commonwealth and permitted by the PADEP, the Plan also accounts for facilities located outside of Pennsylvania, and does not interfere with regulations for the host state agencies, and does not violate the Interstate Commerce Clause.

10.1 IMPLEMENTATION OF THE SOLID WASTE MANAGEMENT PLAN

The method and sequencing for implementation of the Municipal Solid Waste Management Plan is defined in other sections throughout this Plan. The Implementing Documents are as discussed in Section 9.2, with the Implementing Entities defined in Chapter 7, and the schedule as discussed in Section 5.13.

11. METHODS OF DISPOSAL OTHER THAN BY CONTRACTS

This Beaver County Municipal Solid Waste Management Plan is intended to address the collection and disposal of MSW generated within Beaver County.

As discussed in Section 1.3, MSW consists of waste generated by residences, businesses, institutions, government facilities, offices, cafeterias, shopping areas, and similar facilities. Specific types of MSW are discussed below:

- Residential waste is that portion of the waste stream that is generated by County residences and typically collected by periodic curb-side collections. Residential waste is a broad term that may include all other types of waste in small quantities, if generated within the household or business.
- Commercial waste is similar to Residential, unless it is associated with large-scale industrial activities, in which case it is typically categorized as Residual waste.
- Construction and Demolition (C&D) waste includes “all solid waste resulting from the construction or demolition of buildings and other structures, including but not limited to, wood, plaster, metals, asphaltic substances, bricks, blocks and un-segregated concrete.” It does not include waste from land clearing (trees, brush, stumps, and vegetative matter) and uncontaminated soil, rock, stone, gravel, bricks and blocks.
- ICW represents Infectious/Chemotherapeutic Waste, primarily from hospitals and clinics.
- Flood Debris is a rare waste stream occurring after large, catastrophic events, and is typically linked with C&D.
- Residual, Sewage Sludge and Ash waste material tonnages are typically reported by industries or treatment plants within the Region, and
- Asbestos tonnages are a special category generally associated with C&D waste.

This County Municipal Solid Waste Management Plan deals primarily with the “municipal” portion of the waste stream, which typically is limited to Residential, Commercial and Sewage Sludge waste.

The Disposal Capacity Agreement Contracts discussed in Sections 5.8 and 9.3 are intended to assure that disposal capacity is available for MSW generated within the County. These contracts are intended to address the material discussed above, and will not include the following:

- Hazardous Waste (portions of which may be discussed in the Plan with respect to Special HHW collections, but will not be disposed at the Plan Designated facilities)
- Large-scale C&D waste collection intended for disposal at designated C&D Landfills
- Residual Waste material that is deposited at Captive Industrial Landfills (landfills owned by the generator of the waste and used solely for the disposal of that waste)

These items will be addressed separately by the generator of the waste material, and are not part of the responsibility of the County.

12. NON-INTERFERENCE (per 25 Pa. Code. § 272.233)

Beaver County has developed a Municipal Solid Waste Management Plan Update that will not interfere with the design, construction, operation, financing or contractual obligations of any municipal waste processing or disposal facility. Nearly all of the waste generated within the County is collected by local haulers, and distributed to existing disposal facilities that are part of the current Plan. The County has not, and does not intend to interfere with any part of the construction or operation of these facilities.

In addition, the specific regulation cited above does not apply, since there are no sub-county plans that were submitted prior to September 26, 1988.

13. PUBLIC PARTICIPATION (per 25 Pa. Code. § 272.222)

13.1 GENERAL

Public participation elements associated with this Plan revision include:

- Notification to PADEP regarding Plan revision undertaking
- Activities of the Solid Waste Advisory Committee (SWAC)
- Notifications to local governments

Formal notification of Beaver County's intent to prepare a revision to the previously-approved Plans was given to PADEP on December 18, 2009, and the PADEP approved partial funding of the project with an agreement signed on August 30, 2010.

The following paragraphs give specific details associated with other public participation activities which were undertaken from inception of the planning process through completion of that process and submittal of the Plan to PADEP.

13.2 SOLID WASTE ADVISORY COMMITTEE (272.202)

The Beaver County Department of Solid Waste Management (Department) submitted the initial request for Planning Grant funding in December of 2009, and an agreement between the PADEP and the County was finalized in August of 2010.

A letter was submitted to each of the SWAC members on 11/16/12, notifying them of their appointment to the SWAC by the County Commissioners. The SWAC held its first meeting on this Plan revision on December 12, 2012, following a letter sent to each member dated November 16, 2012 and a supplemental email reminder on December 11. During the meeting, a list of the SWAC members, a description of the charge of the SWAC, background information and the general description of future meetings was discussed with the Committee Members. Additional meetings of the SWAC were held on February 13, 2013 and on March 13, 2013 to review and comment on the pre-final draft before it were presented to the County for approval. After receipt of comments from PADEP and Committee members, 2 subsequent SWAC meetings were held (on November 21, 2013 and May 6, 2014). The final version of the various documents was approved at the last meeting.

Copies of the notifications to DEP and SWAC, agendas and minutes of the SWAC meetings and a list of the SWAC members are contained in Appendix F.

The development of the Beaver County Plan Update was coordinated by the Beaver County Department of Solid Waste Management and a Solid Waste Advisory Committee (SWAC) with planning and/or waste staff representation of a broad range of stakeholders. A list of the Steering Committee Members is included on the following page, and copies of the meeting attendees lists, and meeting notes are included in Appendix F.

13.3 NOTICE TO MUNICIPALITIES (272.203 and 272.241)

Since the current Update is considered a Non-Substantial Modification to the previously approved County Plans, it was not necessary to hold Public Meetings to present the anticipated and final Plan Updates. Following completion of the draft Plan Update, copies were distributed to each Municipality for comment, and a copy of the Final Plan will be submitted to each Municipality upon approval by the PADEP and the County Commissioners.

13.4 WEBSITE

Given the short time available for preparation of the Final Plan Update, it was understood that communication among the various SWAC members would be critical. To accomplish the most effective means of communication throughout the Plan development, copies of meeting minutes and draft Plan chapters were emailed directly to the SWAC members for comment, and an internet website was established to provide a location for the current (2004) Plan Update. A copy of the Final 2014 Plan Update will be maintained on this website, and links will be provided to individual municipal web pages, if desired.

http://www.beavercountyrecycling.com/useful_links.html

Beaver County Solid Waste Advisory Committee Members

MUNICIPAL WASTE AUTHORITY	REPRESENTATIVES	ADDRESS	EMAIL ADDRESS
J.J.Brunner, Inc. Landfill/Hauling	Joseph J. Brunner Joseph J. Brunner Jr. Jim Zentner	Joseph J. Brunner, Inc., 211 Brunner Road, Zelienople, PA 16063	admin@brunnerdisposal.com jjbrunnerjr@comcast.net
Waste Management Landfill/Transfer	Pat Disimone Richard Simonetti Jerry Ross	Waste Management, 2197 Duss Avenue, Ambridge, PA 15003 Waste Management, 600 Thomas Street, Monroeville, PA 15146 WM Mahoning Landfill Inc. 3510 Garfield Road New Springfield, OH	pdesimon@wm.com rsimonetti@wm.com jross8@wm.com
Allied Waste Haulers	John McGoran	Allied Waste, P.O. Box 47, 11 Boggs Avenue, Imperial, PA 15126	JMCGoran@Republicservices.co
E. Reid Powell	Reid Powell	E.Reid Powell Refuse, P.O. Box 165, Baden, PA 15005	****
Valley Waste Haulers	Ed Vogel, Jr.	Vogel Disposal, 121 Brickyard Road, Mars, PA 16046	ervogel@vogeldisposal.com
MUNICIPAL / COUNTY	REPRESENTATIVES	ADDRESS	EMAIL ADDRESS
Borough	Larry Morley	New Brighton Borough, 610 Third Street, New Brighton, PA 15066	morley@newbrightonborough.org
Borough	Mario Leone	Monaca Borough, 928 Pennsylvania Avenue, Monaca, PA 15061	manager@monacapa.net
Township	Bryan Dehart	Brighton Township, 1300 Brighton Road, Beaver, PA 15009	bryand@brightontwp.org
Township	Andy Burnett	Hopewell Twp., 1700 Clark Blvd., Aliquippa, PA 15001	hopewellmgr@hopewelltpw.com
City	Stephen Johnson	City of Beaver Falls, 715 15th Street, Beaver Falls, PA 15010	ruagra@yahoo.com
B.C. Planning Commission	Frank Mancini	BC Courthouse, 810 Third Street, Beaver, PA 15009	fmancini@beavercountypa.gov
BEAVER COUNTY COMMISSIONERS	REPRESENTATIVES	ADDRESS	EMAIL ADDRESS
Commissioner - Chairman	Tony Amadio	BC Courthouse, 810 Third Street, Beaver, PA 15009	tamadio@beavercountypa.gov
Commissioner	Joe Spanik	BC Courthouse, 810 Third Street, Beaver, PA 15009	jspanik@beavercountypa.gov
Commissioner	Dennis E. Nichols	BC Courthouse, 810 Third Street, Beaver, PA 15009	dnichols@beavercountypa.gov
B.C. DWM - Director	Holly Nicely	BC D.W.M. 469 Constitution Boulevard, New Brighton, PA 15066	hnicely@beavercountypa.gov
SPECIAL INTEREST GROUPS	REPRESENTATIVES	ADDRESS	EMAIL ADDRESS
Environmental- Conservation Dist.	Jim Shaner	B.C.Conservation District, 156 Cowpath Road, Aliquippa, PA 15001	jim.shaner@bccdpa.us
Water Shed - Independence Conserv.	Vicky Michaels	Independence Conservancy, Inc., POBox 248, Industry, PA 15052	vemichaels@gmail.com
Penn State Cooperative Ext.	Janice Hassen	Penn State Ext. Lawrence Co., 430 Court St., Court Hse., New Castle,	jma2@psu.edu
PA-DEP	Steve Sales	PA-DEP, Bureau of Waste Mgmt., 400 Waterfront Dr., Pgh, PA 15222	ssales@pa.gov
INDUSTRY GROUPS	REPRESENTATIVES	ADDRESS	EMAIL ADDRESS
Bill's Tree Service	Josh/Bill Francis	281 Hodgson Road, Darlington, PA 16115	billstreesvc@yahoo.com
Tuma Landscape & Lawn	Randy Tuma Matt	1369 Chestnut Street, Monaca, PA 15061	rstuma@earthlink.net
Care PSC Metals	Herrmann	Big Beaver Boulevard, PO Box N Koppel, PA 16136	mherrmann@pscmetals.co
AbiBow Recycling LLC	Frank Dodson Connie Thomas	4830 Grand Avenue, Neville Island, PA 15225	frank.dodson@resolutefp.com connie.thomas@resolutefp.com

Appendix E
Model Ordinances and Agreements

Appendix G
County and PADEP Approvals

Appendix H

Miscellaneous Items of Interest

